From: Tom Hopper
To: Armitage, Thomas
Cc: Calandra Clark

**Subject:** Recommendation for Dr. Tracy Corley - Scientific Advisory Board

**Date:** Thursday, June 10, 2021 8:42:25 AM

Attachments: <u>image008.png</u>

image009.png

Tracy Corley Science Advisory Board LetterofSupportMHP 6-9-21.pdf

# Dr. Thomas Armitage,

It is our pleasure to submit the attached letter of support for Dr. Tracy Corley's appointment to the EPA's Scientific Advisory Board.

- Tom Hopper and Callie Clark



## Tom Hopper, Director of Research & Analytics

MHP's Center for Housing Data 160 Federal Street, Boston, MA. 02110

Work: 857-317-8561 Main: 617-330-9955 (b) (6)

Email: <a href="mailto:thopper@mhp.net">thopper@mhp.net</a> Web: <a href="mailto:http://www.mhp.net">http://www.mhp.net</a>



From: <u>Margot Brown</u>
To: <u>Armitage, Thomas</u>

Subject:SAB Nomination for Sacoby WilsonDate:Thursday, June 10, 2021 12:03:37 AM

Dear Dr. Armitage,

I am writing to recommend Dr. Sacoby Wilson as a nominee for the U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB).

Dr. Wilson's CV speaks for itself – he has more than 20 years of experience as an environmental health scientist in the areas of exposure science, environmental health disparities, community-engaged research including community-based participatory research (CBPR), citizen science, and crowd science, water quality analysis, air pollution studies, built environment, industrial animal production, climate change, community resiliency, and sustainability. His Center for Community Engagement, Environmental Justice, and Health (CEEJH) provides engagement to highly and differentially exposed populations and underserved communities. CEEJH serves as a link between frontline and fenceline communities, community-based organizations, environmental advocacy groups, health professionals, researchers, educators, students, policymakers, and government agencies in identifying and address environmental justice and health issues.

EPA's Administrator has directed all EPA offices to "clearly integrate environmental justice considerations into their plans and actions", which includes the SAB. Dr. Wilson is one of the Nation's most respected EJ leaders because of his proven ability to strategically integrate science, and equity and justice together to create innovative solutions for complex problems. His skill set is exceeding rare and would be a tremendous asset to EPA's SAB. He will be able to review the quality and relevance of the scientific and technical information being used or proposed by the EPA, review EPA research programs and plans, and provide scientific advice as requested by the administrator while applying environmental justice principles.

As a former EPA employee with a thorough understanding of the role of the SAB, I am absolutely certain Dr. Sacoby Wilson be a tremendous asset to the SAB because of his expertise, insights and lived experiences. I hope you will give his application the highest level of consideration because he will enable the SAB to meet Administrator Regan's direction to integrate EJ in to all of EPA's plans.

Regards,

Margot

#### **Margot Brown**

AVP, Environmental Justice and Equity Initiatives

#### **Environmental Defense Fund**

1875 Connecticut Ave NW #600 Washington, DC 20009 C (b) (6) marbrown@edf.org edf.org From: <u>Margot Brown</u>
To: <u>Armitage, Thomas</u>

Subject:SAB Candidate Dr. Sacoby WilsonDate:Thursday, June 10, 2021 12:00:15 AM

Dear Dr. Armitage,

I am writing to recommend Dr. Sacoby Wilson as a nominee for the U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB).

Dr. Wilson's CV speaks for itself – he has more than 20 years of experience as an environmental health scientist in the areas of exposure science, environmental health disparities, community-engaged research including community-based participatory research (CBPR), citizen science, and crowd science, water quality analysis, air pollution studies, built environment, industrial animal production, climate change, community resiliency, and sustainability. His Center for Community Engagement, Environmental Justice, and Health (CEEJH) provides engagement to highly and differentially exposed populations and underserved communities. CEEJH serves as a link between frontline and fenceline communities, community-based organizations, environmental advocacy groups, health professionals, researchers, educators, students, policymakers, and government agencies in identifying and address environmental justice and health issues.

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Regards,

Margot

#### **Margot Brown**

AVP, Environmental Justice and Equity Initiatives

#### **Environmental Defense Fund**

1875 Connecticut Ave NW #600 Washington, DC 20009 C (b) (6) marbrown@edf.org edf.org This e-mail and any attachments may contain confidential and privileged information. If you are not the intended recipient, please notify the sender immediately by return e-mail, delete this e-mail and destroy any copies. Any dissemination or use of this information by a person other than the intended recipient is unauthorized and may be illegal.

From: <u>Emily Ranson</u>
To: <u>Armitage, Thomas</u>

Subject: Support Nomination - Sacoby Wilson

Date: Wednesday, June 9, 2021 11:46:04 PM

Attachments: Support WilsonSacoby.docx

Hi, Dr. Armitage,

I have attached a support letter for Dr. Wilson's nomination to the EPA SAB.

Best,

**Emily Ranson** 

---

Emily Ranson
Maryland Director
Clean Water Action
www.cleanwateraction.org
1120 N Charles Street, Suite 415
Baltimore, MD 21201
(410) 235-8808 (o)
(b) (6) (c)

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Thank you.

she / her

From: <u>Dunn, William Newlin</u>
To: <u>Armitage, Thomas</u>

**Subject:** Letter of Support for Dr. Shanti Gamper-Rabindran

**Date:** Wednesday, June 9, 2021 11:22:08 PM

Attachments: <u>image001.png</u>

### Dear Dr. Armitage,

Please accept this letter as my expression of full and enthusiastic support of Professor Shanti Gamper-Rabindran and her candidacy for the Science Advisory Board of the Environmental Protection Agency.

I have known Dr. Gamper-Rabindran since she was appointed as an assistant professor at the University of Pittsburgh's Graduate School of Public and International Affairs (GSPIA). When I served as Academic Dean (2010-2016) Shanti made significant and timely contributions to the reorganization of microeconomics and macroeconomics core courses, assumed leadership in establishing our Global Health Certificate, and exerted a formative influence on the creation of our new major in Energy and Environment. In this and other respects, she has been an academic leader and one of the principals in serving the academic mission of the school and its programs.

Shanti is also one of the most active GSPIA and Pitt faculty in participating in professional associations such as the Association for Public Policy and Management and in advancing this school's standing in the academic and policy world through her academic appointments and panel presentations at environmental policy centers and institutes in Israel, France, the Netherlands, Germany, China, and other countries. Shanti has an exemplary record of publication in peer-reviewed journals, in preeminent peer-reviewed presses such as Cambridge University Press, and in research reports of scientific panels and teams convened by the National Science Foundation, the National Bureau of Economic Research, and the National Academy of Sciences. Dr. Gamper-Rabindran is the most distinguished and productive woman of color in the 60-year history of my school.

In this brief letter I cannot do justice to all of her achievements. I can only call attention to her degrees and remarkable pedigree, her receipt of grants and scholarships, and her overall research productivity. However, what I can add that is not fully captured by her curriculum vitae is her critical-reflective approach to widely used methods of environmental policy analysis and program evaluation. Shanti is not only an applied economist with the highest-level research skills; she also displays critical-thinking skills in her work including the measured critique of benefit-cost analysis and its application to regulatory policy development, implementation, and evaluation. Her participation in EPA's Science Advisory Board will benefit public environmental policymaking in the United States while enhancing the operation and scientific standing of EPA.

I endorse Dr. Gamper-Rabindran's candidacy fully and enthusiastically. Please contact me if I can be of further assistance.

With sincere best wishes,

**WND** 



William N. Dunn
Professor Emeritus of Public Policy
Fellow National Academy of Public
Administration
Graduate School of Public and
International Affairs

University of Pittsburgh 3421 Posvar Hall
Pittsburgh PA 15260
dunn@pitt.edu
(b) (6) (mobile)

From: Karlo J Malave Llamas To: Armitage, Thomas Karlo J Malave Llamas Cc:

Subject:

Date: Wednesday, June 9, 2021 11:18:27 PM

Dr. Thomas Armitage, DFO Designated Federal Officer Office of the Science Advisory Board (SAB) U.S. Environmental Protection Agency (EPA) Washington, D.C. 20460

### Dear Dr. Thomas Armitage:

I am pleased to endorse Dr. Edna L. Negrón Martínez, Author and Retired Professor from the Graduate School of Public Health of the Medical Science Campus of the University of Puerto Rico for the Science Advisory Board (SAB) of the U.S. Environmental Protection Agency (EPA).

I had known Edna L. Negrón Martínez since August 1996 as a graduate student and now as a collaborator. Professor Negrón Martínez's teaching, service and research activities in environmental health carried on different fronts. Worth noted, her research aimed to monitor and assess the risks of exposure resulting from the detection of microbial water indicators and disease-causing microorganisms as a key function of sanitary and public health microbiology. Further, her investigations and presentations in many environmental health conferences and scientific meetings, has been as part of Negrón-Martinez' training grants awards including the National Environmental Health Association in collaboration with the U.S. Environmental Protection Agency; the Federation of American Societies for Experimental Biology; and the University of Athens in partnership with the National Science Foundation. This NSF grant explored hands-on laboratory techniques for the study of microbial metabolic processes and the genetic manipulation of prokaryotes.

Her designation and consultative services in environmental public health local and national advisory panels have documented Negrón Martínez's scientific credentials and expertise. Worth-mention, the Puerto Rico Department of Health-State Asthma Plan, the Center for Public Health Preparedness of the Medical Sciences Campus, and the Institutional Review Board of the Medical Sciences Campus, among others. She also conducted site visits and programs assessment as a member of Consultative Boards of the Puerto Rico Council of Higher Education for the Accreditation of Environmental Sciences graduate degree programs of non-governmental universities. She has also served in a variety of leadership positions, including Program Coordinator of the Environmental Health Department, Academic Senator of the Graduate School of Public Health, and Chair of numerous institutional and scientific committees.

Dr. Negrón's recognition among peers can be evidenced by her appointment to the Editorial Board of the Journal for Microbiology and Biology Education of the American Society for Microbiology, and to the Committee for Items Writing of Public Health Certification Exam of the National Board of Public Health Examiners. In 2012-2015, the Administrator of the Environmental Protection Agency (US EPA) appointed her to the National Environmental Education Advisory Council of the

Environmental Protection Agency, EPA Region 2, Representative of colleges and universities.

She has effectively pioneered and accomplished a diversity of environmental public health endeavors during her extensive and seasoned academic career. Her demonstrated ability to forge across sector partnerships and to leverage resources can be best demonstrated by collaborative inter-professional teamwork comprising scientists of diverse perspectives and technical expertise both from Puerto Rico and abroad. One of her useful and most recent outcomes has been the publication of her interdisciplinary aimed textbook, "Public Health and the Environment," in December 2018. Dr. Negrón's book is timely as it focuses on the necessity to learn about existing environmental challenges and how they affect individuals as well as collective actions. Special attention is given to the ecological and health effects of pollution and the role of science education in environmental health. The book also highlights the need for addressing a comprehensive perspective on environmental health sustainability.

Dr. Negrón immediate objectives are to share her expertise and engage a broader audience. She is actively making presentations to communicate environmental health and public health research topics to diverse audiences mainly based on her book, both locally and abroad.

Due to her more than 30 years of demonstrated commitment to environmental teaching, research, and service and her record of accomplishment in building alliances to develop and implement environmental public health projects, Dr. Edna L. Negrón Martínez is an excellent candidate.

I do not doubt that she will contribute to the success of SAB's mission and responsibilities.

If you need additional information, you can contact me at (787) 257-7373 Est. 3938 or you can contact me directly via my personal phone at (b) (6)

Cordially,

## Karlo Malavé-Llamas Ph.D., M.S.

Dean

Science and Technology Academic Division Principal Investigator HSI-NSF-STEM

Universidad Ana G. Méndez (UAGM)

787-257-7373 x 3938 kmalave@uagm.edu

\_

google scholar: https://scholar.google.com.pr/citations?user=YlzA498AAAAJ&hl=en&oi=ao

Linkedin: <a href="https://www.linkedin.com/in/dr-kmll/">https://www.linkedin.com/in/dr-kmll/</a>
ORCID: <a href="https://orcid.org/0000-0002-6996-9851">https://orcid.org/0000-0002-6996-9851</a>

Facebook: <a href="https://www.facebook.com/urgreat.mbrsrise">https://www.facebook.com/urgreat.mbrsrise</a>

Publons: <u>publons.com/a/1510369/</u> NSF-HIS-STEM: <u>NSF Award Search</u>

PubFacts: <a href="https://www.pubfacts.com/manage/profile/Karlo+Malave-Llamas">https://www.pubfacts.com/manage/profile/Karlo+Malave-Llamas</a>

CienciaPR: <a href="https://www.cienciapr.org/en/user/cefiro">https://www.cienciapr.org/en/user/cefiro</a>

Columnista: <a href="https://www.elnuevodia.com/autor/karlo-malave-llamas/">https://www.elnuevodia.com/autor/karlo-malave-llamas/</a>



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- Los servicios de apoyo técnico continúan ofreciéndose a través del "Service Desk", puede comunicarse al teléfono: 787-257-7373, extensión 7487.
- Para servicios de admisión y asistencia a servicios estudiantiles, estamos recomendando utilizar el teléfono del "call center", 787-751-1403.
- Pueden mantenerse informados sobre las medidas implantadas a través del espacio en nuestra página web <a href="https://www.uagm.edu/covid19">www.uagm.edu/covid19</a>.

From: Amy Chu

To: <u>Armitage, Thomas</u>

Cc: garima.raheja@columbia.edu

**Subject:** EPA's Science Advisory Board Nomination: Garima Raheja

**Date:** Wednesday, June 9, 2021 5:01:30 PM

Dear Dr Thomas Armitage,

I am Amy Chu, a 4th year undergraduate student at UC Berkeley, and I support Garima Raheja for the EPA Science Advisory Board.

I met Garima in the Bay Area Environmentally-Aware Consulting Network (BEACN), a student organization I joined my first semester at UC Berkeley. As a leader, alumni, and mentor – I have seen her show a dedication to environmental justice and equity, introducing the semesterly Environmental Justice general meeting as BEACN President in 2017-2018. In this meeting, 50 students learn about the nuances and challenges of Corporate Social Responsibility initiatives and discuss how to contextualize and re-center our sustainability consulting around equity. The presentation led by Garima broke down case studies of corporate-caused environmental injustices in a way that students who may not commonly discuss these topics may understand. In my first semester in BEACN, this experience she led empowered me to keep challenging sustainability work, even within our own organizations.

Even as an alumni, Garima has returned to teach the Environmental Justice General Meeting in Spring 2020 and was a guest discussion leader in fall 2020. She highlighted conversations around navigating financial security while choosing careers and challenging our perceptions on what decisions are made out of necessity as opposed to privilege. Her contribution has continue to encourage students to choose impactful careers that also foster personal development.

In the past year, I have also known her as a mentor and she has helped me navigate my work in BEACN's Equity Committee, particularly recommending healthy work habits and valuing community wellness in organizing work. While I have not worked with her directly, we have talked about the countless hours she spends on her research as well as her labor organizing at Columbia University. She has both the academic passion of advancing equity as well as authentic commitment to on-the-ground work.

Garima would be great at the position because of her commitment to environmental justice, education, and community engagement. She supports student empowerment, comprehensive solutions, and authentic relationship building. I give her my highest recommendation. If you would like to speak further, please reach out at <a href="maychu@berkeley.edu">amychu@berkeley.edu</a> or (b) (6)

Best regards, Amy Chu

Amv Chu

Pronouns: She/Her/Hers

University of California, Berkeley | Class of 2022

B.S. Environmental Economics and Policy, City Planning and Global Poverty & Practice Minors

LinkedIn: <a href="https://www.linkedin.com/in/amymchu/">https://www.linkedin.com/in/amymchu/</a>

From: Nicky Sheats

To: Armitage, Thomas

Cc: newbian8; Nicky Sheats

**Subject:** Recommendation for Professor Ana Baptista **Date:** Wednesday, June 9, 2021 5:14:03 PM

Attachments: ABaptista SAB rec.pdf

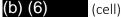
Dear Dr. Armitage,

I would like to recommend that Professor Ana Baptista of the New School be appointed to EPA's Scientific Advisory Board. To that end, I have attached a letter of recommendation for Professor Baptista. If you have any questions please do not hesitate to contact me.

Sincerely,

Nicky Sheats, Esq., Ph.D.

Director, Center for the Urban Environment
John S. Watson Institute for Urban Policy and Research at Kean University
Member of the New Jersey Environmental Justice Alliance



From: Ash, Joshua R
To: Armitage, Thomas

Subject: public comment - EPA SAB candidates - Dr. Rabindran-Gamper

**Date:** Wednesday, June 9, 2021 4:47:06 PM

Attachments: Public comment - EPA SAB candidates - Dr. Rabindra-Gamper.pdf

Dr. Armitage,

Thank you for offering the opportunity to provide input on the list of candidates for the U.S. EPA's Science Advisory Board. Please see the attached letter supporting the appointment of Dr. Shanti Rabindran-Gamper to the board. If you have any questions, please feel free to contact me at (b) (6) or jra67@pitt.edu.

Josh

Joshua Ash, JD, MS
PhD Candidate
Graduate School for Public Policy and International Affairs
University of Pittsburgh
(b) (6)

Pronouns: he/him

From: Kristen Naney
To: Armitage, Thomas
Subject: SAB Nomination

**Date:** Wednesday, June 9, 2021 4:18:51 PM

# Good afternoon Dr. Thomas Armitage,

I nominate and highly recommend Dr. Sacoby Wilson for the US Environmental Protection Agency 's (US EPA) Scientific Advisory Board (SAB). Dr. Sacoby Wilson is an Associate Professor with the Maryland Institute for Applied Environmental Health and Department of Epidemiology and Biostatistics, School of Public Health, University of Maryland-College Park. He is also Director of the Center for Community Engagement, Environmental Justice and Health (CEEJH), which provides technical assistance and research support to communities fighting against environmental injustice and environmental health disparities in the DMV region and across the nation.

I have known Dr. Wilson since 2010 in the capacity of mentor, doctoral program advisor, dissertation chair, co-author, and colleague. I can attest to the fact that he has dedicated his career to building community-university partnerships that leverage institutional resources to support frontline and fence-line communities facing environmental and climate injustices. As an environmental health scientist, he has over 20 years of experience performing this work in the areas of exposure science, environmental justice, environmental health disparities, community-engaged research including community-based participatory research (CBPR), citizen science, and crowd science, water quality analysis, air pollution studies, built environment, industrial animal production, climate change, community resiliency, and sustainability.

He has worked on environmental justice issues including environmental racism with community-based organizations through community-university environmental health and justice partnerships in South Carolina and North Carolina including the Low-Country Alliance for Model Communities (LAMC), in North Charleston, South Carolina; the West End Revitalization Association (WERA) in Mebane, NC; and the Graniteville Community Coalition (GCC) in Graniteville, SC. He has provided technical assistance to REACH in Duplin County, NC; RENA in Orange County, NC; and the NC Environmental Justice Network. He also has worked on environmental

justice and air pollution issues with community-based groups in Houston, Texas, Savannah, GA, Uniontown, AL, and Wilmington, DE.

Dr. Wilson is a member of the US EPA's National Environmental Justice Advisory Council (NEJAC) and the National Academy of Science's Board on Environmental Studies and Toxicology (BEST). He is also a board member of the Citizen Science Association, Editor in Chief of *Environmental Justice*, and a senior fellow in the Environmental Leadership Program. He has helped to build several environmental justice organizations and coalitions, published in several peer-reviewed journals, and has received many awards for his contributions and achievements as an environmental justice researcher and advocate.

Dr. Wilson has the education, experience, and leadership skills necessary to be successful as a US EPA SAB member. He has the qualifications to review scientific and technical information, evaluate EPA research programs and plans, and provide scientific advice to EPA's administrator as needed. In addition to his technical ability to perform the work, Dr. Wilson always operates with integrity and is passionate about addressing health inequities and environmental and climate justice issues. There is no better candidate for the role of US EPA SAB member than Dr. Sacoby Wilson. Thank you.

Very Respectfully, Kristen

Kristen Burwell Naney, PhD, MPH

Email: kbnaney@gmail.com Cell: (b) (6) From: Susan Wood
To: Armitage, Thomas

**Subject:** Letter of Support for Tracy A. Corley, Ph. D for the Science Advisory Board

**Date:** Wednesday, June 9, 2021 3:48:59 PM

Attachments: <u>image001.png</u>

#### Dear Dr. Armitage:

This letter is sent in support of Dr. Tracy A. Corley, Ph. D, for appointment to the Environmental Protection Agency's Science Advisory Board (SAB). I have been privileged to work with Dr. Corley, both while she was a fellow at MassINC and again as she has assumed the responsibilities of Director of Research and Partnerships at the Conservation Law Foundation.

I am the American Planning Association (APA) Region V, Board Director and serve on the APA Legislative and Policy Committee. In 2019, the Planning for Equity Policy Guide, which I co-chaired and co-authored, was adopted as policy for the APA, a 40,000 member organization. Today, I am co-chairing a more focused equity policy guide, the APA Inclusive Growth and Equitable Economic Development Policy Guide, and am fortunate to have Dr. Corley serve on our Advisory Committee, along with members from the Brookings Institute, the Federal Reserve Bank, the Urban Institute, and more. Dr. Corley has been instrumental in providing guidance to our policy guide working group and recently served on an expert panel at the APA 2021 National Conference, which was attended by more than 4,000 people.

Dr. Corley brings a science-based approach, supported by data analysis and academic rigor, to the field of social science, which centers people first. In short, she uses data and a statistical approach to affect policies related to climate change, health equity, economic prosperity, and quality of life by focusing on those who are affected by current conditions or, in the case of climate change, forecast future conditions.

I cannot think of a better way to positively affect the human condition than by using both a quantitative and qualitative approach to arrive at conclusions that guide decision-making focused on people-based outcomes.

Dr. Corley possesses this unique combination of physical and social science knowledge that results in desired policy and quality of life outcomes. Both of these are critical to the work undertaken by planning professionals, such as myself, throughout the Country, and are reasons for her effectiveness as a member of the Advisory Group for our latest policy guide in development and also her contributions as a presenter at our recent National Planning Conference.

Thank you for the opportunity to provide information and comment on Dr. Corley's credentials and accomplishments, both of which position her as an excellent candidate for the SAB Board. Please register my support for Dr. Tracey A. Corley, Ph. D, for the SAB.

Sincerely,
Susan A. Wood, FAICP
APA Board Director, Region V

# Susan A. Wood, FAICP

# **Planning Project Manager II, Environmental**

o 303.299.2467



susan.wood@rtd-denver.com



Regional Transportation District Civic Center Plaza offices 1560 Broadway STE 700 Denver, CO 80202 From: Jennifer Anne Cotting
To: Armitage, Thomas

**Subject:** Support for Dr. Hendricks nomination to US EPA SAB

Date:Wednesday, June 9, 2021 2:33:07 PMAttachments:Hendricks nomination to US EPA SAB.pdf

Hello Mr. Armitage,

Please find my letter in support of Dr. Marccus Hendricks' nomination to the US EPA Science Advisory Board.

If you have any questions or need any additional information, I welcome a conversation.

Thank you for the opportunity to provide input, Jen

Jen Cotting | Director
Environmental Finance Center | University of Maryland
301.405.5495 (office) | (b) (6) (mobile)
efc.umd.edu | jcotting@umd.edu
#blacklivesmatter



From: <u>Harold Rickenbacker</u>
To: <u>Armitage, Thomas</u>

**Subject:** Public comments on SAB candidates - Sacoby Wilson

**Date:** Wednesday, June 9, 2021 2:07:46 PM

Attachments: <u>ATT00001.txt</u>

Please accept this letter of support on behalf of Dr. Sacoby Wilson, who has been nominated to join the US Environmental Protection Agency's Scientific Advisory Board (SAB). Dr. Wilson has centered his career around building authentic partnerships with grassroots organizations while leveraging institutional resources to support frontline and fence-line communities facing environmental and climate injustices.

I have worked closely with Dr. Wilson at the Environmental Defense Fund (EDF) to advance work on air pollution and transportation equity. More specifically, Dr. Wilson has helped facilitate workshops and webinars focused on health and environmental benefits from medium-heavy duty truck electrification. We have also designed community action plans to advance public policy and advocacy efforts at the state and local levels through this work.

Dr. Wilson is known in the environmental justice and academic communities as a thought leader and recognized for his technical acumen and passion for community-owned and managed research. In his role as the Director of the Center for Community Engagement, Environmental Justice, and Health (CEEJH) at the University of Maryland-College Park, Sacoby has touched many lives. He has done work to address the built environment and environmental health issues in Mebane, North Carolina; Uniontown, Alabama; Curtis Bay, Baltimore; Brandywine, MD; Bladensburg, MD; Newark, NJ; Savannah, GA; and Charleston, SC; to name a few. Many of these projects and CEEJH programs have been recognized nationally and replicated by public and specialized agencies.

His integrity and character speak for itself; he has touched the lives of several communities. Therefore, I can earnestly say that Sacoby is deserving of this recognition and hope that the committee considers this nomination as an acknowledgment of his many successes over the past decade.



Keep hope alive,

#### Harold Rickenbacker, Ph.D.

Innovation, EDF+Business Manager, Clean Air & Innovation

#### **Environmental Defense Fund**

1875 Connecticut Ave, NW Suite 600 Washington, DC 20009

T 202 572 3563 c (b) (6) hrickenbacker@edf.org

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From: Hennessy, William
To: Armitage, Thomas
Cc: Hull, Oliver

Subject: Tracy Corley Letter of Recommendation

Date: Wednesday, June 9, 2021 1:36:22 PM

Attachments: Dr. Tracy Corley, Letter of Recommendation.pdf

## Dear Dr. Armitage,

I hope this finds you well. I am submitting to you a letter of recommendation for Dr. Tracy Corley for a position on the EPA's Scientific Advisory Board written by Congressman Seth Moulton. If there is any issue, please do not hesitate to reach out to me.

Thanks,

Billy

Billy Hennessy | Special Assistant and Press Aid Rep. Seth Moulton (MA-06)

1127 Longworth HOB | Washington, DC

W: 202.225.8020 C: **(b) (6)**  From: Crawford, Kelly (DOEE)
To: Armitage, Thomas

**Subject:** Comments regarding SAB Candidate Dr. Sacoby Miguel Wilson

 Date:
 Wednesday, June 9, 2021 12:31:14 PM

 Attachments:
 DrWilson SABnomination DOEE AQD.pdf

## Greetings,

Please see attached comments in support of Dr. Wilson's nomination.

Cheers,

Kelly Crawford
Pronouns: she/her
Associate Director
Air Quality Division
Department of Energy & Environment
Government of the District of Columbia
1200 First Street NE, 5th Floor
Washington, DC 20002

Desk: (202) 724-7650 Cell: **(b) (6)** 

Web: doee.dc.gov

From: Chanceé Lundy
To: Armitage, Thomas

**Subject:** Dr. Crystal Upperman / EPA SAB - Letter of Support

**Date:** Wednesday, June 9, 2021 11:38:47 AM

Chanceé Lundy



clundy@chancee.com

9th, June 2021

Dr. Thomas Armitage
Designated Federal Officer (DFO), Science Advisory Board
U.S. Environmental Protection Agency Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N.W.

Mail Code: 1400R Washington, DC 20460

Via Email: <a href="mailto:armitage.thomas@epa.gov">armitage.thomas@epa.gov</a>

Re: Invitation for Public Comment on the List of Candidates For EPA's Scientific Advisory Board (SAB)

### Dear Dr. Armitage:

I respectfully submit this comment in response to the list of candidates nominated to serve on the U.S. Environmental Protection Agency's (EPA) Science Advisory Board (SAB). The chartered SAB provides scientific advice to the EPA Administrator on a variety of EPA science and research topics. The SAB Staff Office invited nominations of individuals to serve on the chartered SAB with expertise or extensive experience in the following scientific disciplines and topics as they relate to human health and I am recommending Dr. Crystal Upperman..

On May 19, 2021, EPA issued a call for public comment on the list of candidates for the EPAs SAB. I have been an Environmental Engineer for the past 18 years and have owned an engineering firm, worked on water quality and climate change issues, and served on scientific advisory boards such as the Chesapeake Bay Scientific and Technical Advisory Board. I believe that I am qualified to make this recommendation not only because I know Dr. Upperman to be technically astute but I recognize the importance of having people who are grounded with diverse viewpoints. Her experience documented within this letter of support is a testament to that.

The EPA has long been criticized for the lack of fresh perspectives on the SAB when accessing balance on the Board. This notion of perspectives stems from EPA's Peer Review Handbook instructing that the Agency "rotate membership among qualified scientists to obtain fresh perspectives and reinforce the reality and perception of independence." These fresh perspectives often arise with the introduction of candidates who understand the human element and interdisciplinary impacts of EPA's decisions; this is the reason why strong consideration should be given to Dr. Crystal Upperman.

Dr. Upperman leads the integration of public health information and informed risk characterization into Aclima's air pollution and greenhouse gas measurement and analysis products. In her prior roles, she was a Senior Research Associate at the World Resources Institute on the Global Commission on Adaptation, at AECOM she was the Climate Adaptation and Resilience Lead for the Southeast US, Latin America, and the Caribbean, and she managed the CDC's Building Resilience Against Climate Effects (BRACE) program for Maryland Department of Health. She worked as an environmental regulator, very early in her career, for the New Jersey Department of Environmental Protection and the Georgia Environmental Protection Division's Ambient Air Quality Program. Crystal's research focus is in exposure science and spatial epidemiology and has included a national assessment of the impact of climate change, pollen exposure, and extreme heat on chronic respiratory diseases. Crystal is a Trustee of The Nature Conservancy, and is an Advisory Board Member for the American Public Health Association's Center for Climate, Health, and Equity. Crystal earned a PhD in Marine, Estuarine, and Environmental Science from the University of Maryland as a U.S. EPA Science to Achieve Results Fellow and an NSF Louis Stokes Alliance for Minority Participation Fellow, a Master of Public Administration in Nonprofit Management from Kennesaw State University, and a Bachelor of Science in Environmental Science from Spelman College.

Dr. Upperman's background and experience reflects the rigor and acumen necessary to help the U.S. EPA make informed environmental actions to protect public health. She is the personification of someone who digs deep, isn't afraid to have tough conversations, and uses her technical knowledge combined with knowledge of communities to make recommendations. The EPA SAB needs someone who embodies those characteristics and will be better for having her on board. If you have any questions or concerns regarding this letter of support please feel free to reach me at <a href="clundy@chancee.com">clundy@chancee.com</a> or (b) (6)

Sincerely,

Chanceé Lundy

From: Brady, Andrew
To: Armitage, Thomas
Cc: Bloomer, Bryan

Subject: EPA Science Advisory Board Nomination Support Letter - Dr. J. Odencrantz

**Date:** Wednesday, June 9, 2021 11:25:33 AM

Attachments: <u>image001.pnq</u>

USEPA SAB - Support Letter - J. Odencrantz - 060921.pdf

Dear Dr. Armitage,

Please find attached my support letter for Dr. Joseph Odencrantz's nomination to the Science Advisory Board.

Thank you for your time and consideration.

# **Andrew Brady**

T +1 213 694 3108 **DLA Piper LLP (US)**F +1 310 595 3406 550 South Hope Street

M (b) (6) Suite 2400

andrew.brady@us.dlapiper.com Los Angeles, CA 90071-2678



dlapiper.com

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From: <u>maria PAYAN</u>
To: <u>Armitage, Thomas</u>

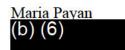
Subject: support for Dr. Sacoby Wilson to EPA Scientific Advisory Board

Date: Wednesday, June 9, 2021 10:46:26 AM

# Dear Dr Armitage,

I am writing in support of Dr. Wilson's nomination for EPA's Scientific Advisory Board. I cannot think of a better candidate for this position. Dr. Wilson's experience and credentials on a broad range of issues make him the perfect candidate to serve in this role. I have had the priviledge of working with Dr. Wilson on projects in the Delmarva region and can assure you of his professional dedication and integrity.

Thank you,



From: Jim Xu

To: <u>Armitage, Thomas</u>

Cc: garima.raheja@columbia.edu

Subject: Garima Raheja - Nomination to EPA Science Advisory Board

**Date:** Tuesday, June 8, 2021 11:42:34 PM

#### Dear Dr. Armitage,

Greetings! I hope you are doing well. By way of introduction, my name is Jim, and I am currently a data consultant at PricewaterhouseCoopers (PwC). I am writing to you today to voice my full support for Garima Raheja's nomination (and hopefully selection) to EPA's Science Advisory Board.

I was a fellow student with Garima at UC Berkeley. Garima has shown herself to be an exceptional student—from great academic and research achievements to strong leadership positions in student groups. I have had the privilege of witnessing Garima's dedication to environmental justice first hand when she served as the president of the student-led environmental consulting group on campus. She has worked with numerous Bay Area companies and nonprofits in optimizing their environmental impact and environmental justice missions. I have also had the honor of working directly alongside Garima in Code for America, a national volunteering organization for building digital assets for government services. There, Garima was eager to engage with other volunteers and local groups, culminating in the successful build of a homelessness resource database for the city of Berkeley.

I have seen Garima's work and dedication to environmental issues at Columbia University through her workshops and tireless activism. Not only has she continued her research from her undergraduate years, she has expanded her influence and offered her expertise selflessly with nonprofit organizations, academics, and other activists. I truly believe her to be qualified for EPA's Science Advisory Board, and I firmly trust that she will exceed expectations.

Please do not hesitate to contact me if you have any further questions. Thank you so much for your time and consideration!

Best,
Jim

-Jim Xu
jimzjxu@gmail.com | (b) (6)

For scheduling appointments, please Google Calendar invite <a href="mailto:jimzjxu@gmail.com">jimzjxu@gmail.com</a>.

From: <u>George Chai</u>
To: <u>Armitage, Thomas</u>

Cc: garima.raheja@columbia.edu

Subject: Support for Garima Raheja"s EPA SAB nomination

**Date:** Tuesday, June 8, 2021 8:01:40 PM

### Dr. Armitage,

I hope all is well! My name is George Chai and I am a recent Cornell graduate. I wanted to reach out to provide my overwhelming support for Garima Raheja, a candidate for the Science Advisory Board.

Simply put, Garima is by far one of the most passionate, intelligent, and aware environmental justice advocates I have ever met. After working with her through an environmental consulting organization, I easily noticed her deep understanding of how environmental policy and business intersect with science. Even more so, her leadership as President of the organization made it so easy for me to get involved in learning and engaging with environmentalism - a key quality, in my opinion, for any changemaker. She inspires those around her and no doubt will be a future leader in environmental justice one day.

While her resume speaks for itself, I believe it is her genuine commitment to environmental equity / justice issues that will make her a phenomenal advisor for this board. The world certainly needs more people like her, and her unique perspective as a young person who is trying to enact change at the local / regional / national / int'l level would be invaluable to this board.

In my opinion, no organization should miss out on the opportunity to work with Garima. Please let me know if I can answer any additional questions - the best way to contact me is at gc489@cornell.edu.

Much appreciation, George Chai

--

# George Chai

Cornell University '21
Applied Economics and Management
Cornell SC Johnson College of Business
Email | LinkedIn | Phone: (b) (6)

From: Vineet Jagadeesan Nair
To: Armitage, Thomas

Cc: garima.raheja@columbia.edu

**Subject:** Public comments for the nomination of Garima Raheja

**Date:** Tuesday, June 8, 2021 4:44:02 PM

Attachments: <u>image003.png</u>

Dear Dr. Armitage,

My name is Vineet Nair and I am currently a 2<sup>nd</sup> year PhD candidate in Computational Engineering at MIT. I am writing to support the nomination of Garima Raheja to the EPA's Science Advisory Board, specifically the Environmental Justice section.

I first met Garima as an undergraduate at UC Berkeley in 2015 and we have worked together on several environmental projects since then. We were both actively involved in BEACN, a student-run, non-profit consulting organization focused on sustainability and social responsibility. Garima displayed a deep commitment to environmental causes and quickly grew as a leader within the organization. While working together as consultants on the same project team, she displayed strong technical skills and a solid understanding of the various issues surrounding climate change. Despite being involved in many other activities on campus, she always went above and beyond with deliverables – whether it was conducting exhaustive research or perfecting a slide deck. Later on, I also saw her excel in other roles within the group – as a project manager and eventually serving as Co-President. Being part of the executive team under her leadership was a great experience – she is humble, leads by example, and her passion for climate action is truly infectious. As Co-President, she took the club to new heights by boosting membership, increasing member engagement and recruiting new high-value clients with interesting and impactful projects. She also strived to improve both the social and professional development experience for members. Outside of BEACN, I also worked with her as part of other organizations at UC Berkeley such as the Berkeley Energy & Resources Collaborative (BERC).

I have always been motivated by Garima's dedication to environmental issues, especially relating to air pollution and environmental/social justice. Over the course of the past 6+ years, I have been inspired by her numerous professional projects and accomplishments in this area, particularly her research on air quality monitoring at Berkeley and other organizations like NASA and NOAA. It's also evident that this issue is very personal to her – she often talked about growing up in New Delhi and its challenges with poor air quality. More recently, we both served as <a href="Thriving Earth Exchange">Thriving Earth Exchange</a> fellows with the American Geophysical Union. This once again highlighted her interest in community-based science to serve marginalized communities. In addition to her scientific expertise and knowledge, she has a critical understanding of socioeconomic and policy challenges – I believe this makes her an excellent candidate for the advisory board. I am confident that she will bring valuable insights and diverse perspectives to aid the decision making process, and always strive to promote environmental justice goals.

Please don't hesitate to reach out to me if you need any further information from my end.

Thank you,

# Vineet Jagadeesan Nair (he/him)

<u>Computational Science & Engineering (CSE)</u> PhD Candidate Research Assistant | <u>Active-Adaptive Control (AAC) Lab</u>

MIT Mechanical Engineering Department

<u>jvineet9@mit.edu</u> | (b) (6)



From: Tom Diorio
To: Armitage, Thomas
Subject: Dr Sacoby Wilson

Date: Tuesday, June 8, 2021 4:18:53 PM

Dear Dr. Armitage, I have recently learned that Dr. Sacoby Wilson has been nominated for the EPA's Scientific Advisory Board.

I am leaving my comment of support for Dr Sacoby Wilson's nomination. Dr. Wilson's credentials and experience could not be more suited or relevant for this position. Thank you for your consideration of Dr Wilson.

Mr. Thomas J. DiOrio



From: <u>Ellen J Kohler</u>
To: <u>Armitage, Thomas</u>

**Subject:** Public Comment regarding US EPA Scientific Advisory Board

**Date:** Monday, June 7, 2021 1:56:27 PM

#### Mr. Armitage -

I am submitting these comments in support of the nomination of Marccus Hendricks to the US EPA Scientific Advisory Board. I have worked with Dr. Hendricks on several projects and believe that he would bring a deep understanding of the science shaping the current set of challenges we are facing and which EPA is tasked with helping to address around climate change. His research has allowed him to become thoroughly engaged with communities both in Texas and the mid-Atlantic region. He has developed an ability to integrate across disciplines that is not common in the academic world and absolutely essential to successfully addressing environmental challenges. Over the course of the past year, he has helped me more fully understand the impacts of structural racism in the context of environmental protection and natural resource management. He is an excellent candidate for the board.

Thank you for your time and consideration.

Best regards -

Ellen Kohler

--

Ellen Kohler, MS, JD | Program Director of Water Resources Environmental Finance Center | University of Maryland





Located on ancestral lands of the Piscataway People

From: <u>Aaron Aber</u>
To: <u>Armitage, Thomas</u>

**Subject:** Comments in Support of Dr. Sacoby Wilson

**Date:** Sunday, June 6, 2021 5:10:00 PM

#### Hello,

I write to support the nomination of Dr. Sacoby Wilson to EPA's Scientific Advisory Board. I was a student of Dr. Wilson's at the University of Maryland College Park from 2015 to 2016 studying environmental justice and community-based research strategies. Dr. Wilson's commitment to environmental justice would make him an invaluable member of the Board. He will bring to this work an eye toward ensuring that scientific information and practices by EPA protect and serve vulnerable communities effectively. For this reason, I wholeheartedly support his nomination.

Thank you, Aaron

Aaron Aber, J.D (He/Him) <u>aaronjaber@gmail.com</u> Cell: 2(b) (6) From: Sharon Burke
To: Armitage, Thomas

Subject: EPA Scientific Advisory Board (Hendricks)

Date: Friday, June 4, 2021 8:55:43 PM

### Dear Dr. Armitage:

I am writing to you to support the nomination of Dr. Marccus D. Hendricks to be a member of the EPA's Scientific Advisory Board. He is an exemplary scholar, a great mentor and leader, and very well versed in the application of research to policy. He's both a deep thinker and a practical problem solver.

I first met Dr. Hendricks at a National Science Foundation workshop on environmental security. This was a multi-day gathering of prominent experts from across academia and government, all there for the purpose of exploring a range of environmental security topics and helping NSF identify possible new grant programs. Even with all the talent in the room, Dr. Hendricks stood out for the quality of his ideas and his ability to persuade and inform colleagues across a range of disciplines. He also showed us that there were entire environmental justice dimensions of the challenges under discussion that we had not considered -- he not only made it a richer and better meeting, he also influenced me to think about my own work differently.

I have kept in touch with Dr. Hendricks in the years since. As a former senior defense official, I know it's not easy to find people with such a depth of scholarship who also understand public policy and implementation in the field. In addition, his work on the intersection of race and infrastructure was ahead of its time, though late to need from a societal perspective. But now is certainly the time to put environmental justice center stage -- at EPA and across the government. Dr. Hendricks has also made important contributions in the areas of climate change and natural disaster vulnerability and resilience, all areas with a shortfall in actionable research. Finally. I admire Dr. Hendricks for his dedication to mentoring students of color -- he goes well beyond office hours to make sure they have the opportunities they deserve.

Without question, Dr. Hendricks would be a great boon to the EPA, his fellow Advisory Board members, and the environmental quality of the nation should you select him for the Scientific Advisory Board. I sincerely hope you will.

Regards,

Sharon E. Burke

--

Honorable Sharon E. Burke
Director, Resource Security
New America
<a href="https://www.newamerica.org/resource-security/">https://www.newamerica.org/resource-security/</a>

@burkese <u>burke@newamerica.org</u> (202) 596-3349 mobile (b) (6) New America is at 740 15th Street, NW, Suite 900, Washington, DC 20005

From: Suzanne Spencer
To: Armitage, Thomas

Subject: Nomination for Shanna Edberg - EPA Science Advisory Board Environmental Justice Committee

**Date:** Friday, June 4, 2021 6:37:29 PM

#### Hi there,

I'd like to nominate Shanna Edberg for the EPA Science Advisory Board's Enviro Justice committee. I work with Shanna on California public lands and waters conservation issues, and she is one of the most knowledgeable, passionate, and inspiring leaders in the field. She comes from a practitioner background that combines systems thinking, sustainable development, environmental and climate justice, and policy and economics research that has been at times US-focused and at times global. She brings a holistic perspective that integrates economic, political, environmental/ecological, and social systems. She is also a queer Jewish woman with an invisible disability working for a Latino-serving NGO.

Thank you, Suzanne

--

**Suzanne Spencer I Communications Counselor** 

**FULL COURT PRESS COMMUNICATIONS** 

C: (b) (6) O: 510.550.8172

Pronouns: she/her

TWITTER I LINKEDIN I FACEBOOK I WEBSITE
THE FRANKLIN BUILDING 1624 Franklin Street, Suite 500, Oakland, CA 94612

From: <u>Lucy Newman</u>
To: <u>Armitage, Thomas</u>

Subject: EPA Science Advisory Board Recommendation for Shanti Gamper-Rabindran

Date: Friday, June 4, 2021 3:33:12 PM

## Dear Dr. Thomas Armitage,

I would like to highly recommend Shanti Gamper-Rabindran for the EPA science advisory board.

For background, I am a recent college graduate and a software developer at IBM. Growing up, Shanti was my neighbor. My family and hers often had dinner together, and I occasionally babysat her son. I have always been interested and concerned about the impact human civilization has on the environment, so Shanti has invited me to several events that she organized throughout the years related to environmental matters. Based on what I have seen at these events, and what I know about Shanti as a person, I feel very confident in recommending her for this position.

When I was in high school, Shanti invited me to her conference on Managing Risks in Shale Development. There, experts from all over the world presented on various aspects of Marcellus Shale development and the threat that fracking poses to natural areas and communities. While this was an international conference and natural gas extraction in various regions was discussed, Shanti has special concern for and understanding of the areas near Southwestern Pennsylvania where we live. She balances her knowledge of the broader issues with expertise in specific cases and regions.

A few years later, I attended an event following the release of Shanti's book, The Shale Dilemma. This book also highlights Shanti's value to the board, as she approaches the topic of Marcellus Shale fracking from an economic perspective. Shanti has a multifaceted understanding of environmental issues, and can discuss them from scientific, economic, and sociological perspectives. In her book, she presented an economic discussion of the risks and rewards of shale development, which brings to light issues often ignored by analyses that are narrower in scope. I believe that Shanti's unique expertise on environmental issues and her ability to present arguments from multiple perspectives would make her a huge asset to the EPA.

Finally, I would like to talk about what I know of Shanti as a person. She is one of the most friendly, enthusiastic, and positive people I know, always excited to see and talk to me or another friend or neighbor. She is a great communicator, whether her audience is of experts or of the general public. Her concern for the environment is sincere and personal as well as academic.

For all the reasons discussed above, I would like to recommend Shanti to the EPA science advisory board. Thank you very much for your consideration.

Yours sincerely, Lucy Newman | (b) (6) From: Kerr, Gaige
To: Armitage, Thomas

**Subject:** public comment on Susan Anenberg re: SAB appointment

**Date:** Friday, June 4, 2021 10:58:38 AM

# Dear Thomas,

I am writing to submit a public comment regarding Dr. Susan Anenberg's appointment to the SAB.

I have known Susan for a little over a year, and she currently serves as my supervisor and mentor at George Washington University. In the year I have been working with her, my career has undoubtedly been propelled forward in no small part thanks to her. Her ability to lead a thriving research group at George Washington University while also leading initiatives on climate, air quality, and health and serving on the boards of journal and scientific societies is enviable.

Susan is dedicated to conducting society-relevant research, and her research does not just envelope one "sphere" of the science-policy-community nexus but brings together and engages a wide spectrum of folks in the research process. I have personally learned a lot from Susan about how to transform scientific results to the people these results impact and policy. I expect these traits will be especially valuable and relevant for the SAB and her ability to speak to and liaise with a wide variety of individuals.

While all-too-often overlooked when it comes to discussing scientific merits, Susan is a fantastic person: kind, generous, and personable. I enthusiastically recommend that she be appointed to the SAB, and I am happy to discuss any additional questions about her that you (or others at EPA) might have.

# Cheers, Gaige



# Gaige H. Kerr

Pronouns: he, him, his What's this?

Postdoctoral Scientist | Department of Environmental and Occupational

Health

Milken Institute School of Public Health The George Washington University

m (b) (6)
gaigekerr@gwu.edu

From: Rose, Matthew
To: Armitage, Thomas

**Subject:** Recommendation for Dr. John O"Brien for EPA"s SAB

**Date:** Friday, June 4, 2021 9:59:41 AM

Attachments: <u>image001.png</u>

JOB.pdf

# Dr. Armitage

I am happy to provide my recommendation for Dr. John N. O'Brien to serve on EPA's Scientific Advisory Board.

Based on my experience working with Dr. O'Brien, I believe he would be a tremendous asset to the SAB.

My formal letter of recommendation is attached.

Warmly,

# Matthew Rose (he/him/his)

Director | Advisory + Innovation | Advanced Energy Philadelpia, PA 19103



mrose@trccompanies.com



From: Sheridan, John W.
To: Armitage, Thomas

**Subject:** Letter of support for Dr. Sacoby Wilson **Date:** Thursday, June 3, 2021 4:52:45 PM

Attachments: EPA Science Advisory Board letter of recommendation Dr. Sacoby Wilson.pdf

Dr. Armitage,

A letter of support from Prince George's County Council Member Jolene Ivey for Dr. Sacoby Wilson's nomination to the EPA's Science Advisory Board is attached.

John Sheridan
Policy Director

Jolene Ivey, Prince George's County Council, District 5

Main: (b) (6) Cell: 301-906-8238 jwsheridan@co.pg.md.us

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From: Kristine Ashfield Armitage, Thomas To:

Subject: Shanna Edberg nomination for EPA SAB Date: Thursday, June 3, 2021 4:16:12 PM

Attachments: image001.png

image002.png image003.png image004.png image005.png

To whom it may concern,

I whole-heartedly support Shanna Edberg for the EPA Science Advisory Board. I have worked with Shanna as a grantee of the David and Lucile Packard Foundation, and have found her to be meticulous, prepared, and knowledgeable about the projects we have supported. She is not what you might expect to find at a Latinx environmental group, and I think that she brings a fresh perspective to the work. Certainly she has the background academics, but she also has immersed herself throughout her career in supporting environmental justice issues and advocating both domestically and abroad. Aside from that, she is a delightfully positive person and a real pleasure to collaborate with. I hope you will seriously consider Shanna for this position.

Sincerely, Kristine Ashfield

**Kristine Ashfield** (Pronouns: She, Her, Hers)

Program Associate

Conservation and Science program, The David and Lucile Packard Foundation 650-917-7176 office (currently not answering)

cell

www.packard.org











The content of this email and any attachments may be confidential. If you are not the intended recipient, please reply to this message and follow with its deletion.

From: Ruth Dickey-Chasins
To: Armitage, Thomas

**Subject:** Public comment on SAB candidates **Date:** Thursday, June 3, 2021 2:37:43 PM

# Good afternoon,

I hope this message finds you well. I want to express my strong support of two nominees for the US EPA's Scientific Advisory Board:

Dr. Sacoby Wilson Dr. Susan Anenberg

Both of these individuals are incredibly knowledgeable and hold deep expertise in this field. I believe they would be valuable additions to the SAB.

Thank you for your time.

# Sincerely,

--

# **Ruth Dickey-Chasins**

MPH Candidate | Global Environmental Health Milken Institute School of Public Health The George Washington University She/Her/Hers

rdickeychasins@gwmail.gwu.edu



From: Christy Plumer
To: Armitage, Thomas

Subject: TRCP Support Letter for SAB Environmental Justice Committee Nominee - Ms. Shanna Edberg

**Date:** Wednesday, June 2, 2021 12:12:08 PM

Attachments: <u>ATT00001.txt</u>

Support Letter Shanna Edberg SAB 060121.pdf

# Dear Mr. Armitage:

Please find attached a support letter from the Theodore Roosevelt Conservation Partnership for Ms. Shanna Edberg's nomination to be a member of the Science Advisory Board's Environmental Justice Committee.

Sincerely, Christy Plumer

Christy Plumer, Chief Conservation Officer

Theodore Roosevelt Conservation Partnership
529 14<sup>th</sup> St. NW, Suite 500

Washington, D.C. 20045

(b) (6) mobile

cplumer@trcp.org



From: Timothy Purinton
To: Armitage, Thomas
Cc: Crystal Upperman

**Subject:** Letter of Support - Dr. Crystal Upperman **Date:** Tuesday, June 1, 2021 5:36:35 PM

Attachments: <u>image001.png</u>

image002.png

Upperman SAB Comments TNC.pdf

Dear Dr. Armitage,

Please accept this letter of support for Dr. Crystal Upperman to serve on EPA's Science Advisory Board.

Sincerely, Tim Purinton

Tim Purinton (he/his)

Executive Director

timothy.purinton@tnc.org

(240)-630-7047 (Office) (b) (6) (Mobile) nature.org The Nature Conservancy, Maryland/DC Chapter 425 Barlow Place, Suite 100 Bethesda, MD 20814



From: Karen Louise Akerlof

To: Armitage, Thomas

Subject: Re: Invitation for Public Comment on the List of Candidates for EPA's Scientific Advisory Board (SAB)

**Date:** Tuesday, June 1, 2021 4:14:01 PM

Attachments: KAkerlof SAB Comment Crystal Upperman 060121.pdf

# Dear Dr. Armitage:

I respectfully submit this comment in regards to the list of candidates nominated to serve on the U.S. Environmental Protection Agency's (EPA) Science Advisory Board (SAB).

Dr. Crystal Upperman's broad experience and proven ability to work successfully with diverse groups to address the public health needs of communities make her an ideal candidate for the SAB. I deeply encourage the appointment of Dr. Upperman as a member of this advisory board.

Sincerely,

# Karen Akerlof

#### Karen Akerlof, PhD

Assistant Professor, Science Communication for Environmental Decision-Making and Policy George Mason University Department of Environmental Science and Policy David King 3032 4400 University Dr., MS 5F2 Fairfax, VA 22030

(o) 703-993-7069 | (c) (b) (6) | <u>kakerlof@gmu.edu</u>

From: Kovalcik, Gena Marie

To: Armitage, Thomas

**Subject:** EPA Science Advisory Board candidate **Date:** Friday, May 28, 2021 2:13:03 PM

Good afternoon, Dr. Armitage,

On behalf of the Mascaro Center for Sustainable Innovation at the University of Pittsburgh, I am writing to strongly endorse the candidacy of Dr. Shanti Gamper-Rabindran for the EPA Science Advisory Board.

Dr. Gamper-Rabindran was appointed by our Provost to the University's Faculty Sustainability Task Force in 2014. This group is charged with catalyzing multi-disciplinary research and education throughout the university as well as providing insights and support for a broad range of sustainability initiatives on our campus. Dr. Gamper-Rabindran was also appointed as a John C. Mascaro Faculty Fellow for her innovative work in developing inter-disciplinary courses and research related to her work in energy.

She has broadened the academic offerings at Pitt and been a leader in our research endeavors. She has been a true advocate, leader and friend to all of our sustainability endeavors at Pitt.

I strongly support her nomination. Please feel free to reach out with any additional questions.

Best regards, Gena

#### Gena M. Kovalcik, MPPM

Co-director, Mascaro Center for Sustainable Innovation Strategic Advisor to the Dean, Swanson School of Engineering

University of Pittsburgh
153 Benedum Hall | 3700 O'Hara St. | Pittsburgh, PA 15261
gmk9@pitt.edu | o. 412-624-9698 | c. (b) (6)
www.engineering.pitt.edu/MCSI

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From: Allen, Janice (NIH/NIEHS) [E]

To: <u>Armitage, Thomas</u>

Subject:Statement of support for SAB nomineeDate:Thursday, May 27, 2021 10:18:58 AMAttachments:Pat Morris" statement of support.docx

Importance: High

Dear Dr. Armitage,

Please find attached a statement of support for Dr. Patricia Morris attesting to her qualifications for this highly competitive candidacy on a Scientific Advisory Board at EPA.

Do not hesitate to contact me if additional information is needed.

Kind regards. Janice

Janice Benson Allen, PhD

Scientific Review Officer

Scientific Review Branch

Division of Extramural Research and Training

National Institute of Environmental Health Sciences/NIH

530 Davis Drive

P.O. Box 12233, maildrop K3-03

Research Triangle Park, NC 27709

Email: Allen9@NIEHS.NIH.GOV

Phone: 984-287-3232

Fax: 301-480-3705

Cell: **(b) (6)** 

 From:
 Mark Leonardo

 To:
 Armitage, Thomas

 Cc:
 Mark Leonardo

Subject: Recommendation of Dr. John O'Brien

Date: Wednesday, May 26, 2021 5:36:33 PM

Dear Dr. Armitage,

I am writing on behalf of Dr. John O'Brien regarding his nomination and consideration for appointment to the Science Advisory Board (SAB). As a patent attorney, I have worked with Dr. O'Brien on numerous scientifically based projects and technologies in a variety of areas including many of the SAB scientific disciplines and topics as they relate to human health and the environment. During that time, I have come to know Dr. O'Brien well and can thoroughly vouch for his character and scientific expertise in a very many of areas that I believe will be very useful to the SAB. Dr. O'Brien is a pleasure to work with and brings a positive attitude to all his endeavors.

Dr. O'Brien would bring a wealth of knowledge and skills and would be an excellent fit to the SAB. If you have any questions, feel free to contact me at any time for further information.

Best regards,

Mark Leonardo



#### **Mark Leonardo**

Partner
Nutter McClennen & Fish LLP
155 Seaport Blvd / Boston, MA 02210
Direct / 617-439-2401
Cell / (b) (6)

MLeonardo@nutter.com

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From: <u>Larry Newman</u>
To: <u>Armitage, Thomas</u>

Subject: Recommendation for Shanti Gamper-Rabindran, PhD

Date: Wednesday, May 26, 2021 2:01:07 PM

# Dear Dr. Armitage,

Please accept my strongest recommendation for Dr. Shanti Gamper-Rabindran to serve on the Science Advisory Board of the United States Environmental Protection Agency. Dr. Gamper-Rabindran is a close friend who I know is also a scholar dedicated to the scientific understanding of climate-related environmental issues. I have attended her presentations at the University of Pittsburgh, I have read her recent book *The Shale Dilemma*, and I have had numerous discussions with her about the causes and possible remedies of fracking-related pollutants.

Dr. Gamper-Rabindran strikes me as a thoughtful, consistent, and conscientious environmental researcher - the exact kind of person our nation needs on the Science Advisory Board that you are re-building.

Sincerely,

Lawrence S. Newman, PhD



From: Schuster, Luc
To: Armitage, Thomas
Cc: Calef, Anne

**Subject:** recommendation letter for Dr. Tracy Corley **Date:** Wednesday, May 26, 2021 9:37:52 AM

Attachments: <u>image001.png</u>

Tracy Corley EPA Scientific Advisory Board Recommendation.docx

# Dr. Armitage-

Anne Calef (cc'd) and I are excited to be submitting this letter of recommendation on behalf of Dr. Tracy Corley for the EPA Scientific Advisory Board. Please find it attached and don't hesitate to reach out with any questions.

Best-

Luc and Anne

# **Luc Schuster**

Director, Boston Indicators @ The Boston Foundation 75 Arlington Street Boston, MA 02116 Office: (617) 338-1613

Cell: (b) (6)

www.bostonindicators.org



From: To: Subject: Date: Attachme Armitage Thomas SHANNA EDBERG

Monday, May 24, 2021 10 59:17 PM FF9096E80B264BB68C93459FCEB19D21.png

To Whom It May Concern,

I would like to support Ms Shanna Edberg's nomination for EPA Science Advisory Board Since Shanna joined our team at Hispanic Access Foundation she has strengthened and diversified our conservation program by expanding our work through education, advocacy, and community engagement She is intelligent and well prepared in the sciences and is able to bring a wider lense to them due to her robust studies and international work

It is my hope that the board accepts her nomination I know she will be a tremendous asset because she cares about Science, people, and bringing about

With gratitude,

# Christine Tamara Hispanic Access Foundation Partnership Engagement Director





http://www hispanicaccess org



From: Adrienne Perovich
To: Armitage, Thomas

Subject: In support of Dr. Ana Baptista

Date: Monday, May 24, 2021 4:35:42 PM

# Dear Mr. Armitage,

It is my pleasure to submit a comment in support of Dr. Ana Baptista's candidacy for the EPA's Science Advisory Board. I have worked with Dr. Baptista for five years on research and practice related to environmental and climate justice, including collaboratively producing a number of reports on waste & incineration, equity in climate policy, and cumulative impacts for environmental justice communities. Dr. Baptista has shown extensive knowledge on a variety of issues related to climate and environmental justice and a dedication to ensuring equity is built into federal policies propagated to address climate, reduce GHG emissions and reduce legacy pollution in overburdened communities. Dr. Baptista has a deep understanding of the policy and legislative processes, the history of environmental policies in the US and a vision for where we need to go.

I believe she would be an integral member of the advisory board and serve to amplify the voice of communities most impacted by environmental degradation and pollution.

Warm regards,

# Adrienne -Adrienne Perovich Assistant Director, Research & Grants Tishman Environment and Design Center 79 5TH AVE, NEW YORK, NY 10003 perovica@newschool.edu T 585.348.9742 / M (b) (6) tishmancenter.org newschool.edu/100



From: Sandifer, Paul Alan
To: Armitage, Thomas

**Subject:** Dr. Gabriel Filippelli, nominee for the EPA Science Advisory Board

**Date:** Sunday, May 23, 2021 3:50:40 PM

# Dear Dr. Armitage:

I am writing in support of the nomination of Dr. Gabriel Filippelli, Professor at Indiana University, to the EPA Science Advisory Board. Dr. Filippelli is an internationally recognized expert in chemical pollution and effects of pollutants on human health. He directs the Center for Urban Health at IU and is Editor-in-Chief of the Gold open access journal, GeoHealth, published by the American Geophysical Union. It is through my role as one of the editors of GeoHealth that I have come to know Dr. Filippelli over the past few years, and I recommend him to you highly. My recommendation is based not only on his outstanding expertise, but also his commitment to societally relevant research and science translation. He is a pleasure to work with and in my opinion is just the kind of expert that EPA should have on its Science Advisory Board.

Please let me know if you desire further information. Sincerely yours, Paul Sandifer

Paul A. Sandifer, Ph.D.
Director, Center for Coastal Environmental and Human Health
Deputy Director, University of South Carolina Center for Oceans and Human Health and Climate Change
Interactions
Editor, AGU journal GeoHealth
College of Charleston
School of Sciences & Mathematics
Charleston, South Carolina, USA

sandiferpa@cofc.edu Mobile: (b) (6)

http://ssm.cofc.edu/additional-programs/center-for-coastal-environmental-and-human-health/index.php

From: Rajesh Vijayavergia
To: Armitage, Thomas

**Subject:** Invitation for Public Comment on the List of Candidates for the Environmental Protection Agency's Science

Advisory Board

**Date:** Saturday, May 22, 2021 11:45:00 AM

Dr. Thomas Armitage
Designated Federal Officer,
The U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office

armitage.thomas@epa.gov

# Public comments on the List of Candidates under consideration for appointment to the SAB

# Name of the Candidate: Iyengar, Ram Independent Consultant (p. 55)

I had the privilege of closely working with Dr. Ram Iyengar, first during late seventies, in the R&D Centre of Steel Authority of India Limited, and then during 2011-2012 when we invited him to advise us in formulating R&D Plan for Steel Authority of India Limited (SAIL). SAIL is the largest steel producers in India, with captive iron ore, limestone, dolomite and coal mines and 8 steel production units. R&D Plan, which was finalised as per advise of Dr. Ram Iyengar encompassed environment and energy projects to develop or adopt technologies for reducing energy consumption and carbon dioxide emissions; alternative energy sources; achieve low generation and recycling or utilization of steelmaking by-products into useable products; water conservation; advanced beneficiation techniques etc. The R&D Plan formulated appropriately addressed the organization's then, emerging and future needs.

I firmly believe that with his background and vast international experience, Dr. Ram Iyengar will be quite useful to the Environmental Protection Agency's Science Advisory Board.

# Rajesh Kumar Vijayavergia

# Consultant, Steel Research & Technology Mission of India,

Former Executive Director (Operations), Steel Authority of India Limited, New Delhi, India Former Advisor, R&D Centre for Iron & Steel, Steel Authority of India Limited, Ranchi, India Former Advisor (R&D), Research & Development Centre, NMDC Limited, Hyderabad, India

Jeevan Vihar Building, 3, Parliament Street, New Delhi-110001, India

E-mail: <u>rkv.sail@gmail.com</u> Cell No. : (b) (6) From: Robert Watt

To: Armitage, Thomas

**Subject:** Recommendation for Tracey A. Corley PhD

**Date:** Friday, May 21, 2021 3:09:17 PM

# Dear Dr. Armitage,

I write to highly recommend that Dr. Corley be selected to join the Environmental Protection Agency's Science Advisory Board. I have known Dr. Corley for more than 15 years and worked with her on a variety of professional projects and my wife and I have also enjoyed her as a friend. Thus I feel well qualified to comment on why she would be an excellent choice to serve on the committee. Her biographical sketch as presented in the listing of candidates does a fine job of briefly summarizing her credentials and experiences that are relevant to the position. I would like to comment on some of Dr. Corley's intangibles, which in my experience, are critically important to the success of groups like the proposed scientific advisory board.

She knows how to listen and listen deeply and respectfully to other people. She does her homework. Because of who she is and her life experiences she brings a perspective that is atypical and she presents her ideas in ways that can be heard. She is humble and smart a combination that is a gift to any group. She works hard at any task being willing to go the proverbial extra mile to help achieve success. She knows how to work as part of a team and does so with grace. She is "oil" in the machinery of life, not sand in the gears, making it easier for any group to accomplish its work. Finally she has a nice sense of humor that never demeans anyone, but is often useful to get a group through a rough patch.

In short she would make a superb choice for the committee.

Respectfully submitted,

Robert A. (Bob) Watt

Retired Boeing VP of Government and Community Relations. Former Deputy Mayor City of Seattle



Sent from Mail for Windows 10

From: Peter Weigand
To: Armitage, Thomas

**Subject:** Reference Letter for Dr. John O"Brien - EPA Advisory Board Candidate

**Date:** Thursday, May 20, 2021 10:08:22 PM

Attachments: <u>ATT00001.txt</u>

Dr Obrien EPA Advisory Board Candidate Reference Letter - Weigand.docx

# Dear Dr. Armitage,

It gives me great pleasure to provide a letter of recommendation for Dr. O'Brien. Please feel free to contact me on this.

Regards,

Peter Weigand | Chairman & CEO | Skipping Stone, LLC

Office: (714) 965-0885 | Cell: (b) (6) | www.SkippingStone.com



 From:
 Dr. John N. O"Brien

 To:
 Armitage, Thomas

Subject: Test

**Date:** Thursday, May 20, 2021 7:00:48 PM

Attachments: <u>image001.png</u>



Dr. John N. O'Brien
Professor of Public Administration, Flagler College
CEO, Vista Consulting Group Inc
1093 A1A Beach Blvd. Suite 175
St Augustine, FL 32080
516 992 2133

**(b) (6)** (cell)

www.vistaenergygroup.com

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From: <u>Mike Harrington</u>
To: <u>Armitage, Thomas</u>

Subject: Recommendation of Ana Baptista

Date: Thursday, May 20, 2021 4:22:41 PM

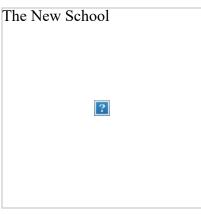
# Dr. Armtiage,

I would like to endorse Dr. Ana Baptista for the EPA Science Advisory board. Besides being an excellent scholar, she is also a tireless advocate for environmental justice. She is able to blend science, policy and advocacy in a way that is accessible and relevant and I think those skills are extremely important for a body like the EPA SAB. Her impressive track record notwithstanding, she is very easy to work with and is an excellent leader and mentor. She would make an excellent addition for all those reasons and more.

WOULD Make an excellent addition for all to MIKE HARRINGTON, LEED GA ASSISTANT DIRECTOR
TISHMAN ENVIRONMENT AND DESIGN CENTER

79 FIFTH AVENUE, 16TH FLOOR NEW YORK, NY 10003 mikeharrington@newschool.edu
T 212.229.5321 x1463 / M (b) (6)

@newschoolTEDC
newschool.edu/100



From: <u>Stallworth, Holly</u>

**To:** <u>Armitage, Thomas</u>; <u>Brennan, Thomas</u>

**Subject:** FW: Nomination of Dr. Gloria Post for the Chartered SAB

**Date:** Monday, May 3, 2021 11:48:28 AM

From: Post, Gloria (DEP) <Gloria.Post@dep.nj.gov>

Sent: Monday, May 3, 2021 9:38 AM

**To:** Stallworth, Holly < Stallworth. Holly@epa.gov>

Subject: Fw: Nomination of Dr. Gloria Post for the Chartered SAB

Holly,

Dr. Christopher Weis of NIEHS forwarded his email of support for my nomination to me. He sent it to Suhair Shallal and Betsy Behl, but he did not include you.

I replied and asked him to forward it to you, and I am forwarding it to you as well to make sure that you receive it.

Best regards, Gloria

**From:** "christopher.weis@nih.gov" <christopher.weis@nih.gov>

**Date:** Monday, May 3, 2021 at 9:04 AM

To: "shallal.suhair@epa.gov" <shallal.suhair@epa.gov>, "Behl, Betsy (Behl.Betsy@epa.gov)"

<Behl.Betsy@epa.gov>

**Subject:** Nomination of Dr. Gloria Post for the Chartered SAB

Dear Dr. Suhair,

Please consider this communication as a **nomination for <u>Dr. Gloria Post</u> of the New Jersey Department of Environmental Protection** to the EPA's <u>Chartered Science Advisory Board</u>.

I have worked with Dr. Post for more than 15 years on some of our Nation's most important and high profile public health concerns and decisions. **Dr. Post is among the most careful, detailed, and ethical environmental health scientists that I have encountered in my 32 year career**. Her patience and persistence in the interest of public health have served to establish and influence regulatory health goals at both the State and Federal levels for many years.

Dr. Post's extensive career in the diverse fields of toxicology, exposure science, pharmacokinetics, risk assessment, and public communication serve to identify her as among the most well respected science analysts in our field of environmental health. Her publication record and extensive contributions to national and international meetings serves as a strong evidence of her contribution

and commitment to the public health sciences.

I strongly encourage you to consider this nomination for Dr. Gloria Post to the Chartered SAB. If chosen for a seat on the Advisory Board, her unbiased and scientifically driven analyses will serve the Environmental Protection Agency and the Nation well.

Please contact me if you have any questions about this nomination.

Respectfully,

Christopher Weis,

# Christopher P. Weis, PhD, DABT.

Toxicology Liaison and Senior Advisor Office of the Director National Institutes of Health, NIEHS Bethesda, MD

Office: 301.496.3511 Cell: (b) (6) From: Omega Wilson

To: Armitage, Thomas; Omega Wilson

Subject: Sacoby Wilson - EPA SAB Nomination Letter

Date: Thursday, June 3, 2021 12:32:15 PM

Attachments: Sacoby Wilson - EPA SAB Nomination Letter - Omega Wilson - June 3 2021.pdf

Dr. Thomas Armitage, Designated Federal Officer - <a href="mailto:armitage.thomas@epa.gov">armitage.thomas@epa.gov</a> Scientific Advisory Board (SAB)
US Environmental Protection Agency
Washington, DC

Regarding Nomination: Sacoby M Wilson, PhD Position: EPA's Scientific Advisory Board (SAB)

See attached the WERA letter of nomination for Sacoby M Wilson for the EPA Scientific Advisory Board.

Contact us for questions or further input.

We pray for greater EPA compliance and enforcement at the ground-level,

Omega R Wilson, Co-Founder

# West End Revitalization Association (WERA)

"We are not getting the basic public health amenities that our taxes pay for!"

PO Box 661 Mebane, NC 27302

Email: wera1usa@gmail.com

Cell: (b) (6)

Original Web: wera-nc.org

From: Stallworth, Holly

To: Brennan, Thomas; Armitage, Thomas
Subject: FW: Gloria Post SAB Nomination
Date: Thursday, May 6, 2021 7:01:09 PM

From: Patricia Reyes preyes@ecos.org>
Sent: Thursday, May 6, 2021 6:34 PM

**To:** Stallworth, Holly < Stallworth. Holly@epa.gov>

**Subject:** Gloria Post SAB Nomination

Hello Dr. Stallworth,

I am the Director or the ITRC - the research arm of the States under the Environmental Council of the States (ECOS). We have been discussing the need for the EPA SABs to be more inclusive of State experience and perspectives and I understand that Dr. Gloria Post from NJDEP has been nominated. I just want to support her nomination as a great SAB candidate that truly represents immense state experience and knowledge. Gloria has been very supportive of the ITRC organization and she has provided a lot of her personal time to be our PFAS and 1,4 Dioxane State toxicology expert.

The USEPA SAB will be fortunate to have Gloria's expertise, and I look forward to seeing her being selected. If you have any questions regarding Gloria's work, please let me know.

Sincerely,

Patricia Catherwood Reyes
Director, Interstate Technology Regulatory Council
1250 H STREET NW SUITE 850
Washington, D.C. 20005
202-266-4933, (c) (b) (6)
itrcweb.org

<sup>&</sup>quot;Do the best you can until you know better; then when you know better, do better."

From: Stallworth, Holly

To: Brennan, Thomas; Armitage, Thomas

**Subject:** FW: Science Advisory Board nomination support: Dr Gloria Post

**Date:** Tuesday, May 4, 2021 8:06:07 AM

Attachments: Holly Stallworth Ltr 5.3.21 (part 1) - signed.pdf

From: Cogliano, Vincent@OEHHA < Vincent. Cogliano@oehha.ca.gov>

**Sent:** Monday, May 3, 2021 6:01 PM

To: Stallworth, Holly <Stallworth.Holly@epa.gov>

Subject: Science Advisory Board nomination support: Dr Gloria Post

Dear Holly—Attached please find a letter in support of the nomination of Dr Gloria Post to the Science Advisory Board.

Please let me know if you have any questions or if I can be of assistance. Thank you.

Best regards,

Vince Cogliano

Deputy Director for Scientific Programs Office of Environmental Health Hazard Assessment California Environmental Protection Agency 1515 Clay St, 16th floor, Oakland CA 94612

mobile: (b) (6)

website: https://www.oehha.ca.gov/

From: <u>Stallworth, Holly</u>

To: Brennan, Thomas; Armitage, Thomas
Subject: Letter of recommendation for Gloria Post
Date: Monday, May 3, 2021 3:17:30 PM

From: Lindstrom, Andrew < Lindstrom. Andrew@epa.gov>

**Sent:** Monday, May 3, 2021 2:37 PM

To: Stallworth, Holly <Stallworth.Holly@epa.gov>

Subject: nomination to PFAS SAB

Ms. Stallworth.

Gloria Post mentioned to me that she may be considered for nominal to an SAB being formed to support the possible regulation of PFOS and PFOA in drinking water.

I've been working with Dr. Post since 2007 on a range of PFAS issues and I find her to be the most knowledgeable and involved risk assessment specialist I have worked with over the course of my 30 + years with the Agency. She knows more about PFOA and the risk assessment process that anyone I know. My research group in RTP has collaborated extensively with the New Jersey Department of Environmental Protection on many PFAS related issues, and I find that their experience and depth of knowledge is second to none. Gloria has lead the NJ DEP's PFAS efforts for nearly 20 years and has grown to be a definitive world-class subject matter expert in that time.

Including Gloria in the SAB that is being formed for possible PFAS regulatory control would greatly enhance the process and the integrity of the final determinations.

I'm very happy to recommend her for this possible assignment and would be more than happy to discuss this with you further should any questions arise.

Thank you very much,

Andy

Andrew B. Lindstrom, Ph.D.
U.S. Environmental Protection Agency
Center for Public Health and Environmental Assessment
Public Health & Environmental Systems Division
Exposure Indicators Branch
Mail Drop E205-04
Research Triangle Park, NC 27711

Tel: 919-541-0551 Mobile: (b) (6) Email: lindstrom.andrew@epa.gov

From: Stallworth, Holly

To: Brennan, Thomas; Armitage, Thomas
Subject: FW: supporting letter for SAB nomination
Date: Monday, May 3, 2021 11:47:54 AM

Attachments: post letter sab.pdf

From: Lau, Chris <Lau.Christopher@epa.gov>

**Sent:** Monday, May 3, 2021 11:27 AM

**To:** Stallworth, Holly <Stallworth.Holly@epa.gov> **Subject:** supporting letter for SAB nomination

Dear Dr. Stallworth:

I would like to submit a letter in support of Dr. Gloria Post's nomination to the EPA Scientific Advisory Board. Please see attached and let me know if you have any questions concerning this endorsement. Thanks for your attention to this matter.

Chris

Christopher Lau, PhD
Office of Research and Development
US Environmental Protection Agency

(919) 541-5097 (office)

(b) (6) (cell)

From: <u>Stallworth, Holly</u>

To: Brennan, Thomas; Armitage, Thomas
Subject: Letter of recommendation for Adam Finkel
Date: Monday, April 26, 2021 11:46:02 AM

Attachments: <u>ATT00001.txt</u>

Just fyi, this is a letter of recommendation for Adam Finkel to the SAB. I thought I would pass all letters of recommendation on to the two of you but let me know if you would prefer some other process. Holly

**From:** Norman, Caffey <caffey.norman@squirepb.com>

Sent: Tuesday, April 20, 2021 1:07 PM

**To:** Stallworth, Holly <Stallworth.Holly@epa.gov>

Subject: Nomination of Adam Finkel to Science Advisory Board

Dear Ms. Stallworth,

I understand that the NRDC has nominated Adam Finkel to serve on the Science Advisory Board. I write to support this nomination.

I became acquainted with Dr. Finkel in the late 1990s when he was Director of the OSHA Office of Health Standards and OSHA was considering adoption of a § 6(b)(5) standard for methylene chloride. Throughout the rulemaking process and the litigation that followed, we found Dr. Finkel to be competent, collegial, and reasonable. While his interpretation of law and policy is considerably more in line with the precautionary principle than our own, it cannot be doubted that he is well qualified in the field of risk assessment, perhaps the most critical area for the SAB as EPA implements the Lautenberg Act. Dr. Finkel also brings expertise in toxicology, epidemiology, statistics, and rulemaking, all highly relevant to the SAB's mission.

Please let me know if I can be of any further assistance.



# W. Caffey Norman

Senior Partner Squire Patton Boggs (US) LLP 2550 M Street, NW Washington, DC 20037 T +1 202 457 5270

F +1 202 457 6315

M + (b) (6)

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#US		

# MARK W. LeCHEVALLIER

ADDRESS: Dr. Water Consulting, LLC

(b) (6)

E-mail: lechevallierl@comcast.net

**SUMMARY:** 

Dr. LeChevallier received his Bachelor of Science and Master's degrees in Microbiology from Oregon State University in 1978 and 1980. He worked as a Research Associate at Montana State University where he received his Ph.D. in Microbiology in 1985. From 1985 to 2017 he worked for American Water, a water utility operating in over 30 states, and Canada; serving over 15 million people. Dr. LeChevallier was the Chief Science Advisor for American Water. In this capacity he provided input on research, technology, innovation, environmental compliance, operational efficiency, and policy for a wide range of water issues including drinking water, wastewater, reuse and desalination. Since January 2018 he is a consultant, drawing upon his extensive experience.

**EDUCATION:** 

PhD Montana State University, Bozeman, Montana. October 1985

Major: Microbiology

Research Subject: Changes in Virulence of Chlorine Injured Pathogens.

M.S. Oregon State University, Corvallis, Oregon. June 1981

Major: Microbiology

Research Subject: Characterization of Bacterial Populations and Turbidity Effects in Chlorinated

Drinking Water.

3.S. Oregon State University, Corvallis, Oregon. June 1978

Major: Microbiology

Research Subject: Occurrence of Staphylococcus aureus and Other Heterotrophic Plate Count

Bacteria in Rural Drinking Water.

EXPERIENCE:

Principal, Dr. Water Consulting, January 2018 - present.

Vice President and Chief Science Advisor, American Water. January 2017 - December 2017.

Vice President and Chief Environmental Officer, American Water. January 2016 - January 2017.

Director, Innovation & Environmental Stewardship, American Water. January 2005 - December 2015.

Chief Scientist, Innovation & Technology, American Water. January 2004 - January 2005.

Director- Research, American Water. July 1994 - December 2003.

Assistant Director- Research, American Water Works Service Company, Inc. July 1992 - June 1994.

Senior Research Microbiologist, American Water Works Service Company, Inc. July 1991 - July 1992.

Research Microbiologist, American Water Works Service Company, Inc. October 1985 - June 1991.

Research Associate, Montana State University, 1980 - 1983.

# PROFESSIONAL ACTIVITIES:

#### American Water Works Association

For more than 30 years, Dr. LeChevallier has served on many committees at the local and national level for the American Water Works Association, typically in a leadership position. Notable accomplishments have been the development of an AWWA policy on research, a research benchmark protocol, books, manuals, and publications on research advancements. In 2009 he expanded the number of AWWA scholarships by forming a presidential standing committee on scholarships.

- Life Member Award. 2021
- Chair, AWWA Water Science & Research Division. 2007-2010.
- Trustee, AWWA Water Science & Research Division. 2002 2007.
- Chair, AWWA Total Coliform Rule Technical Action Workgroup (TAW), 2005-2014.
- Member, Technical Advisory Group (TAG) to the Water Utility Council. 2005-2014.

  Chair AWWA Mark To Line of Table 10 Art 10
- Chair, AWWA Microbiology and Disinfection Technical Action Workgroup (TAW), 2002-2005; member 1990-2005.
- Chair, AWWA Microbial Research Committee, 1995 1999. The committee published two papers

- on Emerging Pathogens in the JAWWA 91(9) 1999.
- Chair, AWWA Microorganisms in Water Committee, 1987-1994. The committee published a manual "Problem Organisms in Water: Identification and Treatment" in 1995.
- Chair, NJAWWA Fuller Award Committee, 2002.
  - Chair, Standard Methods Committee, Section 9212; member, Section 9215, 9217, 9222, 9260, 9711.
- Chair, Journal AWWA, Peer Review Editorial Board, 2010 2014.
- Member, Journal AWWA Editorial Advisory Board, 2010 2015.
- Section Editor, Journal AWWA Peer Review Editorial Board, distribution system, 2006-2010.
- Chair, AWWA Presidential Standing Committee on Scholarships, 2009-2012.
- Member, Technical and Education Council. AWWA. 2007-2010.
- Member, Conference Planning Committee. AWWA. 2007-2010.
- Member, AWWA Microbial Problems Committee, 1985-1990.

#### **Water Research Foundation**

Dr. LeChevallier has been dedicated to advancing the science of water for more than 25 years through participation in national research foundations, including the Water Research Foundation, the WateReuse Research Foundation, National Water Research Institute, and the Water Environment Research Foundation.

- Focus Advisory Group Member. 2011-2012. Advised the Foundation on the realignment of their research program.
- Technical Advisory Group member. 2012-2014. Biological filtration focus area.
- Chair, Unsolicited Proposal Review Committee, Awwa Research Foundation, Denver. 2009-2011.
   Administers AwwaRF's unsolicited project funding of approximately \$1.5 million per year.
- Member, Research Advisory Committee, Awwa Research Foundation, Denver, 1992-1997, 2002-2004.
- Expert Panel Member, Distribution System Water Quality Strategic Initiative, 2007-2011. The panel managed a 5-year, \$5 million research program.
- Member, Project Advisory Committee, Awwa Research Foundation, Denver, 1987-2018. Served advisory role on numerous research projects.

#### Water Reuse Research Foundation

The need for alternative sources of water has highlighted the need to consider reclaimed wastewater as a viable resource. Dr. LeChevallier has been actively involved in water reuse research and planning since 2003 and has conducted nearly \$1.5 million of research on the topic.

- Chair, Research Advisory Committee, WateReuse Research Foundation, 2011-2016.
- Member, Editorial Advisory Board, Journal Water Reuse and Desalination. 2010-2018
- Member, Research Advisory Committee, WateReuse Research Foundation, 2008-2010.
- Section chair and participant, Water Reuse Research Planning Workshops, 2003, 2006, 2009.

#### Water Environment & Reuse Foundation

Recognizing that all water is connected, Dr. LeChevallier has also been active in promoting wastewater research, developing innovative wastewater technologies and bioenergy.

- Member, Research Advisory Council, Water Environment & Reuse Foundation, 2017-2018.
- Member, Research Committee, Water Environment Research Foundation, 2014-2016.

#### **US Environmental Protection Agency**

Dr. LeChevallier has participated in the development of drinking water regulations by serving on a Federal Advisory Committee, the National Drinking Water Advisory Committee, and the National Research Council. He was involved in research planning by serving on several technical workgroups, advisory panels, and peer review panels.

- Member, Drinking Water Subcommittee of the Science Advisory Board, USEPA. 2019-present.
- Small Business Innovation Research (SBIR) program Review Committee, 2017
- EPA/AWWARF Disinfection By-Product Council, Technical Advisory Group member, 1996 -2001
- Member, National Drinking Water Advisory Committee subgroup on Research. The committee developed recommendations for USEPA's research plan.
- EPA Peer Review Panel, Microbial Pathogens in Drinking Water, 1996-1999.
- Member, Technical Workgroup in support of the Phase I and Phase II EPA DBP/ESWTR drinking water regulations. 1997-2003.
- Member, USEPA Expert Panel on CCL Microbial Contaminants. 2002, 2006
- Member, Federal Advisory Committee Act (FACA) for revisions to the Total Coliform Rule and development of the Distribution System Rule. 2007-2008.
- Member, USEPA Research and Information Collection Partnership. 2009-2010.

- Member, National Research Council Committee on Public Water Distribution Systems. 2004-2006.
   The committee published a report entitled, *Drinking Water Distribution Systems Assessing and Reducing Risks*. National Academies Press. Washington, DC. 2006.
- EPA Peer Review Panel, Microbial Risk Assessment Guideline, 2011.
- EPA panel on LT2ESWTR provisions for open finished reservoirs. Washington, DC. 2012.

#### American Society for Microbiology

A microbiologist by training, Dr. LeChevallier has also served in leadership roles in the American Society for Microbiology. He served as the chair of the Applied and Environmental Microbiology Division (Q), on the Public Science Advisory Board, and organized a colloquium on waterborne risks.

- Chair, Division Q, American Society for Microbiology, 1998-2000.
- Member, Environmental Microbiology subcommittee, Public Science Advisory Board, American Society for Microbiology, 1994-2003.
- Chair, American Academy of Microbiology Colloquium on Acceptable Microbial Risk in Water.
   2004-2007. A colloquium report was published <a href="http://www.asm.org/Academy/index.asp?bid=54673">http://www.asm.org/Academy/index.asp?bid=54673</a>

#### **Public Health Agencies**

Protecting public health is integral to producing safe drinking water. Dr. LeChevallier has served public health agencies at the national and international level. He has been involved in outbreak investigations and conducted epidemiology and risk assessment research to examine the safety of drinking water supplies. In 1993, his laboratory conducted the *Cryptosporidium* analyses during the Milwaukee outbreak.

- Member, Water Science Technology Board, National Academies of Science. 2017 2023.
- Member, Management of Legionella in Water Systems, National Academies of Science. 2018 2019.
- Member, World Health Organization committee for drinking water guidelines for Giardia, Cryptosporidium, and Cyclospora. 1996 - 2000. Authored a Rolling Revision of the Guidelines for Drinking Water Quality.
- Member, Centers for Disease Control Working Group on Waterborne Cryptosporidiosis. 1994-1997.
- Canadian Institute of Health Peer Review Committee, Safe Food and Water, 2003.
- Natural Sciences and Engineering Research Council of Canada, peer review panel. 2012.
- Member, ASTM subcommittee D-19:24.02 on pathogenic protozoa. 1990-1995.

#### **Conference Organizing Committees**

Through his involvement in the Technical & Education Council Conference Planning Committee, Dr. LeChevallier has helped organize many national meetings. In addition, he has specifically helped organized the following conferences:

- AWWA Research Symposium. "Particle Measurement and Characterization in Drinking Water Treatment," Nashville, TN, 1999.
- Risk Management Strategies for Drinking Water Utilities: The Role of HACCP, Management Systems and Water Safety Plans. Ann Arbor, Michigan, 2004.
- "Towards reagent-less detection in water" GE-Global Research Center, Niskayuna, NY 2005.
- AWWA Membrane Conference. Phoenix, AZ, 2005.
- AWWA Research Symposium. "Distribution Systems: The Next Frontier," Reno, Nevada, 2007.
- Water Distribution System Analysis Conference, Tucson, AZ, September 12-15, 2010.

# **Mentoring Students**

Dr. LeChevallier has been a mentor and guide for other scientists and encourages a desire for research and a thirst for knowledge. He has actively engaged students at the elementary, high school, and college level. Many of his own staff have pursued advanced degrees. In addition, he has served on graduate student committees at the following institutions:

- University of Delaware
- Southern Illinois University-Edwardsville
- Ball State University
- University of Central Florida
- École Polytechnique de Montréal
- University of New South Wales
- Drexel University, Philadelphia, PA
- University of Illinois, Champaign
- University of Syracuse
- Northeastern University
- State University of New York, College of Environmental Science and Forestry

#### Editorial Boards and Journal Reviews

Dr. LeChevallier has served on editorial boards for two journals and as an advisor for *JAWWA*. In addition, he has reviewed papers for national and international journals and funding agencies.

- Special issue editor for Waterborne Pathogens <a href="http://www.mdpi.com/journal/pathogens/special">http://www.mdpi.com/journal/pathogens/special</a> issues/waterborne-pathogenshttp
- Editorial board member, Appl. Environ. Microbiol., 1996-2002
- Journal AWWA, Peer Review Editorial Board, 2006 2010.
- Chair, Journal AWWA, Peer Review Editorial Board, 2010 2014.
- Member, Journal AWWA Advisory Editorial Board, 2010 2015.
- Member, Editorial Advisory Board, Journal Water Reuse and Desalination. 2010-2018.
- Reviewer for Applied and Environmental Microbiology, 1981-2017;
- Reviewer for Journal AWWA, 1985-2006.
- Reviewer for Water Research, 1985 2018.
- Ad hoc Reviewer for: Microbial Ecology, Biotechnology and Bioengineering; J. Microbiological Methods; J. Industrial Microbiology, J. Revue Des Science De L'Eaux; Canadian. J. Microbiology, Envir. Sci. & Technology, Aqua, J. Quantitative Microbiology, National Science Foundation, National Institute of Dental and Craniofacial Research, Canadian National Research, Israel Science Foundation, Australian Center for Research Contracts.

#### **Awards and Honors**

Dr. LeChevallier has received some of the highest honors in the water industry including the Abel Wolman Award, George Warren Fuller Award, the A.P. Black Award, Fellowship in the American Academy of Microbiology, and national and international awards for publications and presentation. He was honored by *Public Works* magazine as a water industry trendsetter.

- AWWA Water Science & Research Division, Best Paper Award. American Water Works Association. 2019.
- Best paper of 2018 by International Society for Microbial Ecology Journal (ISMEJ) -https://www.nature.com/collections/gebaiadbcc
- AWWA Water Science & Research Division, Best Paper Award. American Water Works Association. 2017.
- Water Environment Federation Leadership Award for wastewater safety. 2016.
- AWWA Distribution & Plant Operations Division Best Paper Award. American Water Works Association. 2016.
- A.P. Black Research Award. American Water Works Association. 2015.
- Business Achievement Award from the Environmental Business Journal in the Water category. 2015.
- US Water Prize from the US Water Alliance, 2014.
- Business Achievement Award from the Environmental Business Journal in the category of Industry Leadership, 2014.
- Technology Merit Award from the *Climate Change Business Journal*, 2014.
- Research Innovation Award, Water Research Foundation. 2013.
- Abel Wolman Award. American Water Works Association. 2012.
  - Water Research Foundation "Outstanding Subscriber Award", 2012.
- American Water Intelligence "Technology Project of the Year" award. 2012.
- AWWA Distribution and Plant Operations Division Best Paper Award. American Water Works Association. 2011.
- Public Works magazine's 2005 Trendsetters list. "Recognizes leaders in the public works
  community who have defined policy, brought their community or an issue into the spotlight, or set
  the standard within the industry." November 2005.
- Opflow Publication Award, 2nd place. American Water Works Association. 2004.
- New York section, American Water Works Association, Best Paper Award. 2002.
- Service Award. M/DBP FACA Technical Work Group. AWWA Water Utility Council. 2001.
   Technology Transfer Award. American Water Works Association, New Jersey Section. 2000.
- Fellow, American Academy of Microbiology. Elected to this honorific leadership group, April 2000.
- Lecturer, Foundation for Microbiology Program, 1999-2001. Provides travel funds for outstanding speakers
- Israeli Academy of Science Travel Award. Sponsorship for a lecture at the 7<sup>th</sup> International Conference of the Israel Society for Ecology and Environmental Quality Sciences. Jerusalem, 1999.
- AWWA Distribution and Plant Operations Division Best Paper Award. American Water Works Association. 1999.
- Thurston E. Larson Best Paper Award. Illinois section AWWA. 1998.
- George Warren Fuller Award. American Water Works Association, New Jersey Section. 1997.
- AWWA Publication Award. For "the most notable contribution to the science or practice of water utility developments." American Water Works Association. 1997.
- New Jersey section, American Water Works Association, Best Technical Presentation. 1995.

- AWWA Water Quality Division Best Paper Award. American Water Works Association. 1994.
- AWWA Publication Award. For "the most notable contribution to the science or practice of water utility developments." American Water Works Association. 1992.
- AWWA Water Quality Division Best Paper Award. American Water Works Association. 1992.
- Vector Laboratories Young Investigator Travel Award. American Society for Microbiology. Las Vegas, 1985.
- Student Paper Award. Joint Conference of the Montana American Water Works Assoc. and Montana Water Pollution Control Assoc. 1983.
- Listed in Who's Who in the West, Who's Who in Science and Engineering, and Who's Who in America.

#### **Business Development**

Recognizing that research is linked to corporate strategy and growth, Dr. LeChevallier has been involved in many business development and training programs:

- Executive Belt in Process Excellence. 2015
- Negotiating to Win. Two-day program by the American Management Association. Washington, DC. February 2007.
- Business & Environment Senior Executives' Seminar, University of Cambridge, UK,
- December 2005.
- License to Manage, a 10-part management training program, 2005
- Leadership Development, November 2003
- Thames Water Integration meeting, February and September 2002
- NARUC Rate School, October 2001
- American Water business forum, 1987, 1995, 2001, 2003-2017.

#### **Patent Awards**

The objective of American Water's research program is not necessarily to generate material for patents. However, over the years the opportunity has arisen to pursue several patents, including:

- Methods and Kits for Detection of Cryptosporidium parvum using Immunomagnetic Separation and Amplification. US Patent 6,153,411. November 28, 2000.
- Methods and Kits for Detection of Cryptosporidium parvum. US Patent 6,395,517 B1. May 28, 2002. International patent Application No. PCT/US99/25718.
- Hong Kong patent #HK 1039965 for "Methods and Kits for Detection of Cryptosporidium parvum" May 31, 2002

#### **Advisory Positions**

Through American Water's external business development office and since 2018 through Dr. Water Consulting, LLC, Dr. LeChevallier has provided consulting services to many utilities. Since 1988, the following utilities have been assisted for a variety of solutions:

Vancouver, BC
Contra Costa, CA
Santa Clara
biological treatment, regrowth
Sinta Clara
biofilms, nutrient levels
Antioch, CA
Rochester, NY
coliform occurrences
Milwaukee, WI
Whitehall, PA
coliform occurrences

Boston, MA Cryptosporidium, disinfection, corrosion

Portsmouth, VA coliform sampling protocols
East Bay MUD, CA chloramines, biofilms

Passaic, NJ chloramines, distribution system
Seattle, WA drinking water research
Nestle Water N. America AOC, bacterial regrowth

Raleigh, NC coliform monitoring Burloak, Ontario Canada Value engineering, disinfection

Portland, OR Water Bureau Brown & Caldwell project on filter plant pilot

# **Membership**

- American Society for Microbiology
- American Water Works Association
- International Water Association
- International Ultraviolet Association

#### RESEARCH

#### **ACTIVITIES:**

Dr. LeChevallier has been the principal investigator, co-investigator or coordinator on over 100 research grants totaling \$43 million from the US Environmental Protection Agency, the Binational Industrial Research & Development Foundation, American Water Works Association, the Water Research Foundation, WateReuse Research Foundation, WERF, and State a gencies. Research areas have included bacterial regrowth, disinfection of biofilms, corrosion, bacterial nutrients, AOC measurement techniques, biological treatment, Legionella, Mycobacterium, microbial recovery and identification, modeling and impact of pressure transients on water quality, disinfection by-products, advanced metering, infrastructure, detection, treatment & survival of Giardia/Cryptosporidium.

Notable contributions to the science of water have been in five major a reas:

#### Biofilms and Bacterial Regrowth

- An understanding of the factors contributing to bacterial regrowth in distribution system biofilms
- The importance of corrosion and the pipe substratum on bacterial growth and disinfection
- The effectiveness of chloramines for inactivation of biofilm bacteria
- Methods for measurement of assimilable organic carbon
- Methods for measurement of injured coliform bacteria

# Giardia and Cryptosporidium

- Methods for detection of Giardia and Cryptosporidium
- Relationship between cysts and oocysts and turbidity and particle counts
- Occurrence of Giardia and Cryptosporidium in raw, finished, and backwash waters.
- Detection of infectious Cryptosporidium by cell culture and PCR
- Cryptosporidium risk assessments

#### Microbiology of Drinking Water

- Identification of coliform and HPC bacteria in distribution system biofilms
- Recovery and detection of *Mycobacterium avium* in drinking water
- Disinfection of drinking water: chlorine, chloramines, chlorine dioxide, UV
- National occurrence of enteric viruses in groundwater
- Biological treatment and biostability of drinking water

#### Distribution System Pressure Management

- Occurrence of negative pressure transients in distribution systems
- Factors contributing to negative pressure transients
- Quantitative Microbial Risk Assessment of negative pressure transients, main breaks
- Optimized pressure monitoring and control

#### Reclaimed Water

- Biostability of reclaimed water in distribution systems
- Microbiology of reclaimed water, Legionella, amoebae
- Disinfection of reclaimed water
- Best management practices

A summary of research grant awards is listed below:

Year	Project Title	Funding Agency	Amount
2017	Workforce needs for Future Distribution systems	Water Research Foundation	\$162,274
2016	Service Line Material Identification	Water Research Foundation	\$85,000
2016	Practical Monitoring Tools for the Biological Processes in Biofiltration	Water Research Foundation	\$883,150
2016	Sources and Fate of Taste and Odor Causing Compounds in the Missouri River	Water Research Foundation	\$238,137
2016 2016	Customer Messaging on Plumbing Systems Issues Demonstrating Innovative Leakage Reduction Strategies: Correlating Continuous Acoustic Monitoring, Satellite Imagery and Flow Sensitive Pressure Reducing Valve System	Water Research Foundation California Energy Commission	\$308,200 \$1,500,000
2015	Hospital discharge practices and contaminants of emerging concern	Water Research Foundation	\$244,930
2015	An Evaluation of the Value of Structurally Enhanced PVC Pipe	Water Research Foundation	\$534,358
2015	Catalytic Nitrate Removal	BIRD Foundation	\$960,000
2015	Intelligent Distr bution Systems Workshop	Water Research Foundation	\$82,020
2015	Optimization of Ozone-BAC Treatment Processes for Potable Reuse Application	WateReuse Research Foundation	\$512,798
2015	Research Plan for Management of Emerging Pathogens in Distr bution Systems and Premise Plumbing Performance and Cost Review of Existing Desalination Plants Which Use Conventional and Membrane Pretreatment	Water Research Foundation	\$93,205
2015	Processes Prior to Reverse Osmosis	WateReuse Research Foundation	\$281,500
2015	Establishing Pathogen Log Reduction Credits for Waste Water Treatment Plants	WateReuse Research Foundation	\$590,546
2014	Smart Water Management Systems	BIRD Foundation	\$1,600,000
2014	Methodology for Assigning Pathogen Removal Credits to Desalination Intake Wells, WRRF-14-06	WateReuse Research Foundation	\$390,392
2014 2014	Simultaneous Removal of Multiple Chemical Contaminants Using Biofiltration Use of Heated Metal Oxide Particles (HMOPs) as Adsorbents for Membrane Fouling Reduction in Water Reuse/Desalination Applications	Water Research Foundation  WateReuse Research Foundation	\$917,687 \$528,000
2014	Reducing Utility Water Loss Using Advanced Continuous Acoustic Monitoring	Illinois Sustainable Technology Center	\$133,000
2014	Sources, Chemistry, Fate and Transport of Chromium in Drinking Water	Water Research Foundation	\$230,412
2013	Converting Conventional Filters to Biofilters	Water Research Foundation	\$445,234
2013	Application of Mainstream Low DO and AOA/ANAMMOX Deammonification at a full-scale MBR Water Reuse Plant	WateReuse Research Foundation	\$365,777
2013	Relative importance and contribution of anthropogenic and natural sources of nitrosamines precursors	Water Research Foundation	\$10,000
2013	Reducing Volatile DBPs in Treated Drinking Water Using Aeration Technologies	Water Research Foundation	\$60,000
2013	Impact of Filtration Media Type/Age on Nitrosamines Precursors	Water Research Foundation	\$387,460
2013	Development of an Advanced Water Leakage Control System	BIRD Foundation	\$900,000
2012	Management of Legionella in Water Reclamation Systems	WateReuse Research Foundation	\$355,000
2012	Nitrosamine Occurrence Survey	Water Research Foundation	\$711,902
2012	Water Utility Infrastructure: Applying Risk Management Principles and Innovative Technologies to Effectively Manage Deteriorating Infrastructure	Water Research Foundation	\$18,760
2012	ENER1C12-Energy Balance and Reduction Opportunities, Case Studies of Energy Neutral Wastewater Facilities and Triple Bottom Line (TBL) Research Planning Support	Water Environment Research Foundation	\$10,000
2012	AMR/AMI Standardization for Drinking Water Systems	Water Research Foundation	\$188,827
2012	Case Studies to Identify Occurrence, Accuracy, and Causative Factors of Reverse Flow as Measured by Meters	Water Research Foundation	\$350,000
2011	Develop Best Management Practices to Control Potential Health Risks and Aesthetic Issues Associated with Reclaimed Water Storage and Distribution	WateReuse Research Foundation	\$377,578

	Application of the Bioluminescent Saltwater Assimilable Organic Carbon Test as a Tool for Identifying and Reducing		
2011	Reverse-Osmosis Membrane Fouling in Desalination	WateReuse Research Foundation	\$248,170
2011	Cost Efficient Nitrogen and Phosphorus Removal	NYSERDA	\$582,916
2011	Localized Control of Disinfection By-Products by Spray Aeration in Storage Tanks	Water Research Foundation	\$300,000
2011	Guidance for Implementing Water Reuse in New Buildings and Developments to Achieve LEED Sustainability Goals	WateReuse Research Foundation	\$181,197
2010	An Operational Definition of Biostability in Drinking Water	Water Research Foundation	\$840,992
2010	Effective Microbial Control Strategies for Main Breaks and Depressurization	Water Research Foundation	\$827,560
2010	Pressure Management Case Studies	Water Research Foundation	\$730,714
2010	Synthesis Document on Pipe Location and Leakage Management for Small Systems	Water Research Foundation	\$174,162
2009	Assessing and Enhancing Biological Filtration	Water Research Foundation	\$783,764
2009	Disinfection Guidelines for Satellite Recycling Facilities	WateReuse Foundation	\$634,394
2009	Microbiology White Paper: A review research needs for the WateReuse Research Foundation	WateReuse Foundation	\$12,500
2008	Characterizing the Components of the Microbial Community Responsible for Nitrification	AWWA Research Foundation	\$41,520
2008	Microbial Ecology of Drinking Water Distr bution Systems	AWWA Research Foundation	\$40,000
2008	Key Asset data for Water Sector Utilities	AWWA Research Foundation	\$460,790
2008	Novel Methodologies for Evaluation of Fouling Reduction of Desalination Membranes	AWWA Research Foundation	\$300,000
2008	Examination of Microbiological Methods for Use with Reclaimed Waters	WateReuse Foundation	\$270,919
2008	Water Industry Contribution to Epidemiological & Health Effects Studies Involving Distribution System Water Quality	AWWA Research Foundation	\$175,000
2008	Asset Management Roadmap	AWWA Research Foundation	\$5,825
2007	Comparison of Zinc vs. Non-Zinc Corrosion Control for Lead and Copper	AWWA Research Foundation	\$458,000
2007	Determination of Cryptosporidium occurrence, infectivity and genotyping in wastewater effluents	WateReuse Foundation	\$633,472
2007	Criteria for Optimized Distr bution Systems	AWWA Research Foundation	\$633,710
2007	Managing Distr bution System Pressures to Protect Water Quality	AWWA Research Foundation	\$300,000
2006	Advanced Metering Infrastructure-Best Practices for Selection, Acquisition and Implementation	AWWA Research Foundation	\$977,704
2006	Microbiological Quality and Biostability of Reclaimed Water Following Storage and Distr bution	WateReuse Foundation	\$500,335
2005	Continuous System Leak Monitoring – From Start to Repair	AWWA Research Foundation	\$441,090
2005	Strategy to Manage and Respond to Total Coliforms and E. coli in the Distribution System	AWWA Research Foundation	\$863,000
2004	Cross-Connection and Backflow Vulnerability: Monitoring and Detection	AWWA Research Foundation	\$635,000
2004	Organizing and analyzing Total Coliform Data to Explore Monitoring Options	AWWA WITAF contract # 274	\$83,400
2004	Suscept bility of Potable Water Distribution Systems to Negative Pressure Transients	New Jersey Department of Environmental Protection	\$155,000
2004	Pathogens and Climate Change	US Environmental Protection Agency	\$58,974
2004	Characterization of Waterborne Aeromonas spp. for their Virulence Potential	AWWA Research Foundation	\$375,290
2003	Standard Operating Procedures for Decontamination of Water Infrastructure	AWWA Research Foundation	\$449,318
2003	Suscept bility of Distr bution Systems to Negative Pressure Transients	AWWA Research Foundation	\$300,000
2003	· · · ·	AWWA Research Foundation	\$144,670
2002	Predictive Models for Water Quality in Distribution Systems Improved Detection Methods for E. coli 0157:H7	AWWA Research Foundation	\$144,670
2002	Integrating UV Disinfection into Existing Water Treatment Plants	AWWA Research Foundation	\$319,054
2002	Study of Particle and Pathogen Removal During Bank Filtration of River Waters	US Environmental Protection Agency	\$536,316
2001	Gray of Farme and Farmoyal Nemoval During Darik Findation of Nivel Waters	35 Environmental Flotection Agency	ψυυυ,υ τυ

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2001	Water Quality Management – How to Structure It Within a Water Utility	AWWA Research Foundation	\$167,800
2001	Workshop to Evaluate Calicivirus Detection Methods	AWWA Research Foundation	\$119,875
2001	Optimizing Chloramine Treatment	AWWA Research Foundation	\$332,344
2000	Demonstration and Standardization of Sample Processing for Molecular Alternatives in Indicator Organism Monitoring and Pathogen Surveillance	Water Environment Research Foundation	\$319,000
2000	Field Testing of Surge Modeling Predictions	AWWA Research Foundation	\$524,950
2000	Field Testing of USEPA Method 1601 for Coliphage	AWWA Research Foundation	\$671,309
2000	Review of Manganese Control and Related Manganese Issues	AWWA Research Foundation	\$100,000
2000	Infectious Disease Associated with Drinking Water from Surface Water Sources: Microbiological Water Quality Factors	AWWA Research Foundation	\$634,880
1998	Source Water Assessment: Variability of Pathogen Concentrations	AWWA Research Foundation	\$1,186,982
1997	Study of Water Quality Improvements During Bank Filtration of River Waters	US Environmental Protection Agency	\$555,999
1997	Pathogen Intrusion into the Distribution System	AWWA Research Foundation	\$466,000
1996	Case Studies of the Impacts of Treatment Changes on Biostability in Full-Scale Distr bution Systems	AWWA Research Foundation	\$770,000
1996	Treatment Options for Giardia, Cryptosporidium, and Other Contaminants in Recycled Backwash Water	AWWA Research Foundation	\$744,694
1995	Occurrence and Control of Mycobacterium avium Complex Short-Term Variability of Giardia Cysts and Cryptosporidium Oocyst Concentrations in a Surface Water Source Used	AWWA Research Foundation New Jersey Department of	\$620,371
1995	for Potable Water	Environmental Protection	\$55,320
1994	Investigation of Biological Stability of Water in Treatment Plants and Distribution Systems	AWWA Research Foundation	\$946,098
1994	Enhanced and Optimized Coagulation for Removal of Particulate and Microbial Contaminants.	AWWA Research Foundation	\$700,000
1994	Interactions Between Pipe Materials, Corrosion Inh bitors, Disinfectants, Organics and Distribution System Biofilms	National Water Research Institute	\$297,410
1994	Giardia Cyst and Cryptosporidium Oocyst Survival in Watersheds and Factors Affecting Inactivation	AWWA Research Foundation	\$489,656
1994	NJDEPE Survey of Finished Water Reservoirs for Giardia Cysts and Cryptosporidium Oocysts	New Jersey Department of Environmental Protection	\$50,000
1993	Application of PCR Technology for Virus Detection in Groundwater	AWWA Research Foundation	\$810,000
1993	National Assessment of Particle Removals by Filtration	AWWA Research Foundation	\$1,189,970
1993	Microbial Impact of Biological Filtration	AWWA Research Foundation	\$511,553
1992	NJDEPE Survey of Giardia and Cryptosporidium in Water	New Jersey Department of Environmental Protection	\$67.500
1991	Factors Limiting Microbial Growth in the Distribution System	AWWA Research Foundation	\$1,154,137
1991	Development of Gene Probes for Detection of Cryptosporidium in Water.	US Environmental Protection Agency	\$16,000
1990	Relationship Between Treatment of Giardia, Cryptosporidium, Turbidity, and Particle Counts	American Water Works Association	\$29,000
1989	Evaluation of Assimilable Organic Carbon (AOC) and Bacterial Regrowth Measurement Techniques	AWWA Research Foundation	\$29,000
1989 1987	Comprehensive Assessment, Bacterial Regrowth in Drinking Water Assessing and Controlling Bacterial Regrowth in Distr bution Systems	AWWA Research Foundation  AWWA Research Foundation	\$12,000 \$195,250
1987	Evaluation of Current Treatment Practices for Removal of Indigenous Parasites	AWWA Research Foundation	\$193,230
1907	Evaluation of Gunerit Freatment Fractices for Removator intrigenous Parasites	AWWA Research Foundation	φ100,023

101 Total: \$43,192,554

# JOURNAL PUBLICATIONS:

- **LeChevallier, M.W., and R.J. Seidler.** 1980. *Staphylococcus aureus* in rural drinking water. *Appl. Environ. Microbiol.* **39:** 739-742.
- Lamka, K.J., M.W. LeChevallier and R.J. Seidler. 1980. Bacterial contamination of drinking water supplies in a modern rural neighborhood. *Appl. Environ. Microbiol.* **39:** 734-738.
- **LeChevallier, M.W., R.J. Seidler and T.M. Evans.** 1980. Enumeration and characterization of standard plate count bacteria in chlorinated and raw water supplies. *Appl. Environ. Microbiol.* **40**: 922-930.
- **Evans, T.M., C.E. Waarvick, R.J. Seidler and M.W. LeChevallier.** 1981. Failure of the most-probable-number technique to detect coliforms in drinking water and surface water supplies. *Appl. Environ. Microbiol.* **41:** 130-138.
- **Evans, T.M., M.W. LeChevallier, C.E. Waarvick and R.J. Seidler.** 1981. Coliform species recovered from untreated surface water and drinking water by the membrane filter, standard, and modified most-probable-number techniques. *Appl. Environ. Microbiol.* **41:** 657-663.
- **Evans, T.M., R.J. Seidler and M.W. LeChevallier.** 1981. Impact of verification media and resuscitation on accuracy of the membrane filter total coliform enumeration technique. *Appl. Environ. Microbiol.* **41:** 1144-1151.
- **LeChevallier, M.W., T.M. Evans and R.J. Seidler.** 1981. Effect of turbidity on chlorination efficiency and bacterial persistence in drinking water. *Appl. Environ. Microbiol.* **42:** 159-167.
- Seidler, R.J., T.M. Evans, R.J. Kaufman, C.E. Waarvick and M.W. LeChevallier. 1981. Limitations of standard coliform techniques. *J. Amer. Water Works Assoc.* 73: 538-542.
- LeChevallier, M.W., T.M. Evans, R.J. Seidler, O.P. Daily, B.B. Merrell, S.W. Joseph and D.M. Rollins. 1982. *Aeromonas sobria* in chlorinated drinking water supplies. *Microbial Ecology* 8: 325-333.
- McFeters, G.A., S.C. Cameron and M.W. LeChevallier. 1982. Influence of diluents, media and membrane filters on the detection of injured waterborne coliform bacteria. Appl. Environ. Microbiol. 43: 97-103.
- **LeChevallier, M.W., S.C. Cameron and G.A. McFeters.** 1983. New medium for the improved recovery of coliform bacteria from drinking water. *Appl. Environ. Microbiol.* **45:** 484-492.
- **LeChevallier, M.W., S.C. Cameron and G.A. McFeters.** 1983. Comparison of verification procedures for the membrane filter total coliform technique. *Appl. Environ. Microbiol.* **45:** 1126-1128.
- **LeChevallier, M.W., P.E. Jakanoski, A.K. Camper and G.A. McFeters.** 1984. Evaluation of m-T7 agar as a fecal coliform medium. *Appl. Environ. Microbiol.* **48**: 371-375.
- **Domek, M.J., M.W. LeChevallier, S.C. Cameron and G.A. McFeters.** 1984. Evidence for the role of copper in the injury process of coliforms in drinking water. *Appl. Environ. Microbiol.* **48**: 289-293.
- **LeChevallier, M.W. and G.A. McFeters.** 1985. Enumerating injured coliforms in drinking water. *J. Amer. Water Works Assoc.* **77:** 81-87.
- **LeChevallier, M.W. and G.A. McFeters.** 1984. Recent advances in coliform methodology for water analysis. *J. Environ. Health.* **47:** 5-9.
- LeChevallier, M.W., T.S. Hassenauer, A.K. Camper and G.A. McFeters. 1984. Disinfection of bacteria attached to granular activated carbon. *Appl. Environ. Microbiol.* **48**: 918-928.
- Camper, A.K. M.W. LeChevallier, S.C. Broadaway and G.A. McFeters. 1985. Evaluation of procedures to desorb bacteria from granular activated carbon. *J. Microbiol. Methods.* 3: 187-198.
- **LeChevallier, M.W. and G.A. McFeters.** 1985. Interactions between heterotrophic plate count bacteria and coliform organisms. *Appl. Environ. Microbiol.* **49:** 1338-1341.
- **LeChevallier, M.W., A. Singh, D.A. Schiemann and G.A. McFeters.** 1985. Changes in virulence of waterborne enteropathogens with chlorine injury. *Appl. Environ. Microbiol.* **50:** 412-419.
- **Singh, A., M.W. LeChevallier and G.A. McFeters.** 1985. Reduced virulence of *Yersinia enterocolitica* by copper-induced injury. *Appl. Environ. Microbiol.* **50:** 406-411.
- Camper, A.K., M.W. LeChevallier, S.C. Broadaway and G.A. McFeters. 1985. Growth and persistence of pathogens on granular activated carbon filters. *Appl. Environ. Microbiol.* **50:** 1378-1382.
- **McFeters, G.A., J.F. Kippen and M.W. LeChevallier.** 1986. Injured coliforms in drinking water. *Appl. Environ. Microbiol.* **51:** 1-5.

Camper, A.K., M.W. LeChevallier, S.C. Broadaway and G.A. McFeters. 1986. Bacteria associated with granular activated carbon particles in drinking water. *Appl. Environ. Microbiol.* **52**: 434-438.

**LeChevallier, M.W., D.A. Schiemann and G.A. McFeters.** 1986. Factors contributing to the reduced invasiveness of chlorine-injured *Yersinia enterocolitica*. *Appl. Environ. Microbiol.* **53**: 1358-1364.

Camper, A.K., S.C. Broadaway, M.W. LeChevallier and G.A. McFeters. 1986. Operational variables and the release of colonized granular activated carbon particles in drinking water. *J. Amer. Water Works Assoc.* **79:** 5: 70-74.

**LeChevallier, M.W., A.K. Camper, S.C. Broadaway, J.M. Henson and G.A. McFeters.** 1986. Sensitivity of genetically engineered organisms to selective media. *Appl. Environ. Microbiol.* **53:**606-609.

McFeters, G.A., M.W. LeChevallier, A. Singh and J.S. Kippen. 1986. Health significance and occurrence of injured bacteria in drinking water. *Wat. Sci. Tech.* **18:** 10: 227-231.

**LeChevallier, M.W., T.M. Babcock and R.G. Lee.** 1987. Examination and characterization of distribution system biofilms. *Appl. Environ. Microbiol.* **54:** 2714-1724.

**LeChevallier, M.W., C.D. Cawthon and R.G. Lee.** 1988. Mechanisms of bacterial survival in chlorinated drinking water. *Water Sci. Tech.* **20(11/12):** 145-151.

**LeChevallier, M.W., C.D. Cawthon and R.G. Lee.** 1988. Inactivation of biofilm bacteria. *Appl. Environ. Microbiol.* **54:** 2492-2499.

**LeChevallier, M.W., C.D. Cawthon and R.G. Lee.** 1988. Factors promoting survival of bacteria in chlorinated water supplies. *Appl. Environ. Microbiol.* **54:** 649-654.

Watters, S. K., B. H. Pyle, M. W. LeChevallier, and G. A. McFeters. 1989. Enumeration of *Enterobacter cloacae* after chloramine exposure. *Appl. Environ. Microbiol.* 55: 3226-3228.

**LeChevallier, M. W., C. D. Lowry, and R. G. Lee.** 1990. Disinfecting biofilms in a model distribution system. *J. Amer. Water Works Assoc.* **82(7):** 87-99.

**LeChevallier, M. W., T. M. Trok, M. O. Burns, and R. G. Lee.** 1990. Comparison of the zinc sulfate and immunofluorescence techniques for detection of *Giardia* and *Cryptosporidium* in water. *J. Amer. Water Works Assoc.*, **82(9):** 75-82.

LeChevallier, M. W. 1990. Coliform regrowth in drinking water: a review. J. Amer. Water Works Assoc. 82(11): 74-86.

Rose, J. B., and M. W. LeChevallier. 1990. The dilemma of new technology. Water Research Quarterly 8(3).

LeChevallier, M. W., W. Schulz, and R. G. Lee. 1991. Bacterial nutrients in drinking water. *Appl. Environ. Microbiol.* 57(3): 857-862.

**LeChevallier, M.W., W. D. Norton, and R. G. Lee.** 1991. Occurrence of *Giardia* and *Cryptosporidium* in Surface Water Supplies. *Appl. Environ. Microbiol.* **57(9)**: 2610-2616.

**LeChevallier, M.W., W. D. Norton, and R. G. Lee.** 1991. *Giardia* and *Cryptosporidium* in Filtered Drinking Water. *Appl. Environ. Microbiol.* **57(9):** 2617-2621.

**LeChevallier, M.W., W. C. Becker, Paul Schorr, and R. G. Lee.** 1991. Evaluating the Performance of Biologically Active Rapid Filters. *J. Amer. Water Works Assoc.*, **84(4):** 136-146.

**LeChevallier, M.W., W. C. Becker, Paul Schorr, and R. G. Lee.** 1992. AOC Reduction by Biologically Active Filtration. *Revue Des Sciences De L'Eau*, **5**(n° special): 113-142.

**LeChevallier, M.W., and W. D. Norton.** 1992. Examining Relationships Between Particle Counts and *Giardia, Cryptosporidium*, and Turbidity. *J. Amer. Water Works Assoc.*, **84(12):** 54-60.

**LeChevallier, M. W., N. E. Shaw, L. A. Kaplan, and T. L. Bott.** 1993. Development of a Rapid Assimilable Organic Carbon Method for Water. *Appl. Environ. Microbiol.* **59(5):** 1526-1531.

Sobsey, M. D., A. P. Dufour, C. P. Gerba, M. W. LeChevallier, and P. Payment. 1993. Using a Conceptual Framework for Assessing Risks to Health from Microbes in Drinking Water. *J. Amer. Water Works Assoc.*, **85**(3): 44-48

LeChevallier. M. W., C. D. Lowry, R. G. Lee, and D. L. Gibbon. 1993. Examining the Relationship Between Iron Corrosion and the Disinfection of Biofilm Bacteria. *J. Amer. Water Works Assoc.*, **85**(7): 111-123.

White, D. R., and M. W. LeChevallier. 1993. Oil Lubricated Wells and AOC in Groundwater. *J. Amer. Water Works Assoc.*, 85(8): 112-114.

LeChevallier, M. W., W. D. Norton, J. E. Siegel, and M. Abbaszadegan. 1995. Evaluation of the

Immunofluorescence Procedure for Detection of *Giardia* and *Cryptosporidium* in Water. *Appl. Environ. Microbiol.* **61(2):** 690-697.

**LeChevallier, M. W. and W. D. Norton.** 1995. Occurrence of *Giardia* and *Cryptosporidium* in Raw and Finished Drinking Water. *J. Amer. Water Works Assoc.*, **87**(9): 54-68.

**LeChevallier, M. W., N. J. Welch, and D. B. Smith.** 1996. Full Scale Studies of Factors Related to Coliform Regrowth in Drinking Water. *Appl. Environ. Microbiol.* **62**(7): 2201-2211.

Jakubowski, W., S. Boutros, W. Faber, R. Fayer, W. Ghiorse, M. LeChevallier, J. Rose, S. Schaub, A. Singh, and M. Stewart. 1996. Environmental Methods for *Cryptosporidium. J. Amer. Water Works Assoc.*, **88(9)**: 107-121.

Arora, H., M.W. LeChevallier, and K.L. Dixon. 1997. DBP Occurrence Survey. J. Amer. Water Works Assoc., 89(6): 60-68.

Norton, C.D., M.W. LeChevallier. 1997. Chloramination: its Effect on Distribution System Water Quality. *J. Amer. Water Works Assoc.*, **89(7)**: 66-77.

**LeChevallier, M.W., W.D. Norton, and T.B. Atherholt.** 1997. Protozoa in Open Finished Reservoirs. *J. Amer. Water Works Assoc.*, **89(9):** 84-96.

Arora, H. and M.W. LeChevallier. 1998. Energy Management Opportunities in the American Water System. *J. Amer. Water Works Assoc.* 90(2): 40-51.

**Atherholt, T.B., M.W. LeChevallier, W.D. Norton, and J.S. Rosen.** 1998. Effect of Rainfall on Giardia and Crypto. *J. Amer. Water Works Assoc.*, **90(9):** 66-80.

**LeChevallier, M. W.** 1998. Benefits of employing a disinfectant residual in distribution systems. *Water Supply* 16(3/4): 61-73.

**LeChevallier, M.W.** 1999. The Case for Maintaining a Disinfectant Residual. *J. Amer. Water Works Assoc.*, **91(1)**: 86-94.

**AWWA Roundtable Discussion.** 1999 The Disinfectant Residual Dilemma. *J. Amer. Water Works Assoc.*, **91**(1): 24-30

**Abbaszadegan, M., P. Stewart, and M. LeChevallier.** 1999. A Strategy for Detection of Viruses in Groundwater by PCR. *Appl. Environ. Microbiol.* **65(2):** 444-449.

**DiGiovanni, G.D., F.H. Hasemi, N.J. Shaw, F.A. Abrams, M.W. LeChevallier, and M. Abbaszadegan.** 1999. Detection of Infectious Cryptosporidium parvum Oocysts in Surface and Filter Backwash Water Samples by Immunomagnetic Separation and Integrated Cell Culture-PCR. *Appl. Environ. Microbiol.* **65(8)**:3427-3432.

**AWWA Research Division Microbial Contaminant Research Committee** (M. LeChevallier chair). Committee Report: Emerging Pathogens - Bacteria. *J. Amer. Water Works Assoc.*, **91(9):** 101-109.

AWWA Research Division Microbial Contaminant Research Committee (M. LeChevallier chair). Committee Report: Emerging Pathogens - Viruses, Protozoa, and Algal Toxins. J. Amer. Water Works Assoc., 91(9): 110-121.

Volk, C. J., and M. W. LeChevallier. 1999. Impacts of the reduction of nutrient levels on bacterial water quality in distribution systems. *Appl. Environ. Microbiol.* **65(11)**: 4957-4966.

Norton, C. D., and M. W. LeChevallier. 2000. A Pilot Study of Bacteriological Population Changes through Potable Treatment and Distribution. *Appl. Environ. Microbiol.* **66(1)**: 268-276.

Gullick, R. W. and M. W. LeChevallier. 2000. Occurrence of MTBE in drinking water sources. *J. Amer. Water Works Assoc.*, **92(1)**: 100-113.

Volk, C., E. Dundore, J. Schiermann, and M. LeChevallier. 2000. Practical evaluation of iron corrosion control in a drinking water distribution system. *Water Research* 34(6): 1967-1974.

**Taylor, R. H., J. O. Falkinham, III, C. D. Norton, and M. W. LeChevallier.** 2000. Chlorine Chloramine, Chlorine Dioxide, and Ozone Susceptibility of *Mycobacterium avium. Appl. Environ. Microbiol.* **66(4):** 1702-1705.

Volk, C. J., and M. W. LeChevallier. 2000. Assessing biodegradable organic matter. J. Amer. Water Works Assoc., 92(5): 64-76.

Volk, C., K. Bell, E. Ibrahim, D. Verges, G. Amy, and M. LeChevallier. 2000. Impact of Enhanced and Optimized Coagulation on Removal of Organic Matter and It's Biodegradable Fraction in Drinking Water. *Water Research* 34(12): 3247-3257.

**LeChevallier, M. W.** 2000. Waterborne pathogens: *Mycobacterium*. An Overview of Speciation and Incidence in Drinking Water. *Water Conditioning & Purification*. **42(9):** p. 108-112.

- Bell-Ajy, K. M. Abbaszadegan, E. Ibrahim, D. Verges, and M. LeChevallier. 2000. Conventional and optimized coagulation for NOM removal. *J. Amer. Water Works Assoc.*, **92(10)**: 44-58.
- **LeChevallier M. W., M. Abbaszadegan, and G. D. Di Giovanni**. 2000. Detection of infectious *Cryptosporidium* parvum oocysts in environmental water samples using an integrated cell culture-PCR. (CC-PCR) system. *Water, Air, & Soil Pollution.* **123(1-4)**:53-65.
- Gullick, R. W., M. W. LeChevallier and T. S. Barhorst. 2001. Occurrence of perchlorate in drinking water sources. *J. Amer. Water Works Assoc.*, **93(1)**: 66-77.
- **Falkinham, J. O., III, C. D. Norton, and M. W. LeChevallier.** 2001. Factors influencing numbers of *Mycobacterium avium, Mycobacterium intracellulare*, and other Mycobacteria in drinking water distribution systems. *Appl. Environ. Microbiol.* **67(3):** 1225-1231.
- **Hunter, P. R., J. M. Colford, M. W. LeChevallier, S. Binder, and P. S. Berger.** 2001. Panel on Waterborne Disease. *J. Emerging Infectious Diseases.* **7(3 suppl.):** 544-545.
- Arora, H., G. Di Giovanni, and M. LeChevallier. 2001. Spent filter backwash water contaminants and treatment strategies. *J. Amer. Water Works Assoc.*, **93**(5): 100-112.
- **Arora, H., M. LeChevallier, and D. Battigelli.** 2001. Effectiveness of chlorine dioxide in meeting the enhanced surface water treatment and disinfection by-products rules. *J. Water Supply & Technol. AQUA* **50(4):** 209-227.
- Volk, C. J., and M.W. LeChevallier, 2002. Effects of conventional treatment on AOC and BDOC levels. *J. Amer. Water Works Assoc.*, 94(6): 112-123.
- LeChevallier, M. W., G. D. Di Giovanni, J. L. Clancy, Z. Bukhari, S. Bukhari, J. S. Rosen, J. Sobrinho, and M M Frey. 2003. Comparison of Method 1623 and cell culture-PCR for detection of *Cryptosporidium* spp. in source waters. *Appl. Environ. Microbiol.* **69(2):** 971-979.
- MacPhee, M. J., D. A. Cornwell, N. e. McTigue, D. K. Hardy, and M. LeChevallier. 2003. Treating recycle streams to remove contaminants. *Opflow*. **29(3)**: 12-15.
- **LeChevallier, M. W., R. W. Gullick, M. R. Karim, M. Friedman, and J. E. Funk.** 2003. The potential for health risks from intrusion of contaminants into distribution systems from pressure transients. *J. Water and Health* 1(1): 3-14.
- **Bukhari, Z. and M. LeChevallier.** 2003. Assessing UV reactor performance for treatment of finished water. *Water Sci Technol.* **47(3):** 179-84.
- Karim, M, M. Abbaszadegan, and M.W. LeChevallier. 2003. Potential for pathogen intrusion during pressure transients. *JAWWA* **95(5)**: 134-146.
- **Abbaszadegan, M, M. LeChevallier, and C. Gerba.** 2003. Occurrence of Viruses in US Groundwaters. *JAWWA* 95(9): 107-120.
- Weiss, W. J., E. J. Bouwer, W. P. Ball, C. R. O'Melia, M. W. LeChevallier, H. Arora, and T. F. Speth. 2003. Riverbank Filtration fate of DBP precursors and selected microorganisms. *JAWWA* 95(10): 68-81.
- **Bukhari, Z., F. Abrams and M. LeChevallier.** 2004. Using ultraviolet light for disinfection of finished water. *Water Sci Technol.* 50(1): 173–178.
- **Bukhari, Z., J. Weihe and M. LeChevallier.** 2004. Development of procedures for rapid detection of E. coli O157:H7 from source and finished water samples. *Water Sci Technol.* 50(1): 233–237.
- Karim, M. R., F. W. Pontius, and M. W. LeChevallier. 2004. Detection of Noroviruses in Water--Summary of an International Workshop. *J. Infect. Dis.* **189**: 21-28.
- Haddix, P. L., N. J. Shaw, and M. W. LeChevallier. 2004. Characterization of Bioluminescent Derivatives of Assimilable Organic Carbon Test Bacteria. *Appl. Environ. Microbiol.* **70(2):** 850-854.
- Wade, T. J., S. K. Sandhu, D. Levy, S. Lee, M. W. LeChevallier, L. Katz, and J. M. Colford, Jr. 2004. Did a Severe Flood in the Midwest Cause an Increase in the Incidence of Gastrointestinal Symptoms? *Amer. J. Epidemiol.* **159(4)**: 398-405.
- **Norton, C. D., M. W. LeChevallier, and J. O. Falkinham, III.** 2004. Survival of *Mycobacterium avium* in a Model Distribution System. *Water Research*, **38**: 1457-1466.
- **LeChevallier, M.W. and R.E. Hubel**. 2004. *Cryptosporidium* Risk Analysis and UV Disinfection System Reliability. *IUVA News* 6(2): 9-14.
- **Bukhari, Z. and M. LeChevallier.** 2004. Finished water disinfection with UV light: Overview of validation studies at American Water. *IUVA News* **6(2)**: 15-20.

- Aboytes, R., G.D. Di Giovanni, F. A. Abrams, C. Rheinecker, W. McElroy, N. Shaw, and M. W. LeChevallier. 2004. Detection of Infectious *Cryptosporidium* in filtered drinking water. *JAWWA* **96(9)**: 88-98.
- Gullick, R.W., M.W. LeChevallier, R.C. Svindland, and M.F. Friedman. 2004. Occurrence of low and negative pressures in distribution systems. *JAWWA* 96(11): 52-66.
- **Karim, M. R., and M. LeChevallier.** 2004. Detection of Noroviruses in Water: Current Status and Future Directions. *Journal of Water Supply Research and Technology-AQUA.* 53(6):359-380.
- **DiGiovanni, G. D. and M. W. LeChevallier.** 2005. Quantitative-PCR Assessment of *Cryptosporidium parvum* Cell Culture Infection. *Appl. Environ. Microbiol.* **71(3):**1495–1500.
- Gullick, R.W., M.W. LeChevallier, J. Case, D.J. Wood, J.E. Funk, and M.J. Friedman. 2005. Application of pressure monitoring and modeling to detect and minimize low pressure events in distribution systems. *J. Water Supply & Technol. AQUA* 54(2): 65-81.
- **LeChevallier, M.W.** 2005. The Piasa Creek Watershed Project: cleaning up the muddy Mississippi. *JAWWA*, **97(12)**: 30-31.
- Weiss, W.J., E.J. Bouwer, R. Aboytes, M.W. LeChevallier, C.R. O'Melia, B.T. Le, and K.J. Schwab. 2005. Riverbank filtration for control of microorganisms: Results from field monitoring. Water Res. 39(10): 1990–2001
- Volk, C., L.A. Kaplan, J. Robinson, B. Johnson, L. Wood, H.W. Zhu, and M. LeChevallier. 2005. Fluctuations of dissolved organic matter in river used for drinking water and its impact on conventional treatment plant performance. *Environ. Sci. & Technol.* 39 (11): 4258-4264.
- **LeChevallier, M.W., M.R. Karim, J. Weihe, J.S. Rosen, J. Sobrinho**. 2006. Coliphage as a Potential Indicator of Distribution System Integrity. *JAWWA* **98(7):** 87-96.
- **Haddix, P.L., C. J. Hughely, and M. W. LeChevallier.** 2007. Occurrence of Microcystins in 33 Water Supplies in the United States. *JAWWA*. 99(9): 118 125.
- **Bukhari, Z. J. R. Weihe, and M. W. LeChevallier.** 2007. Rapid Detection of *E. coli* O157:H7 in Water. *JAWWA*. 99(9): 157 167.
- Schneider, O.D., M. W. LeChevallier, H.F. Reed, and M.J. Corson, 2007. A comparison of zinc and nonzinc orthophosphate-based corrosion control. *JAWWA*. 99(11): 103 113.
- **Rosen, J.S., J.A.H. Sobrinho, and M. LeChevallier.** 2009. Statistical Limitations in the Usefulness of the Total Coliform Data. *JAWWA*. 103(3): 68-81.
- LeChevallier, M.W. 2009. Assessing the value of research. JAWWA. 101(9): 38 -46.
- Weinrich, L.A., E. Giraldo, and M.W. LeChevallier. 2009. Development and Application of a Bioluminescence-Based Test for Assimilable Organic Carbon in Reclaimed Waters. Appl. Environ. Microbiol. 75(12): 7385-7390.
- Payne, S.J., M.C. Besner, J. Lavoie, C. Krentz, L. Truelstrup Hansen, M. Friedman, M.W. LeChevallier, M. Prévost and G.A. Gagnon. 2010. Molecular techniques and data integration: investigating distribution system coliform events. *Journal of Water Supply Research and Technology—AQUA*, 59(5): 298-311.
- Hargy, T.M., J. Rosen, M. LeChevallier, M. Friedman, and J. L. Clancy. 2010. A high-volume sampling method for total coliform and *E. coli. JAWWA*. 102(3): 79-86.
- **Jjemba, P.K., L.A. Weinrich, W. Cheng, E. Giraldo, and M.W. LeChevallier.** 2010. Regrowth of Potential Opportunistic Pathogens and Algae in Reclaimed-Water Distribution Systems. *Appl. Environ. Microbiol.* 76(13): 4169–4178.
- Weinrich, L.A., P.K. Jjemba, E. Giraldo, and M. W. LeChevallier. 2010. Implications of Organic Carbon in the Deterioration of Water Quality in Reclaimed Water Distribution Systems. *Water Research* 44: 5367-5375.
- Hong, P.Y., C. Hwang, F. Ling, G.L. Andersen, M.W. LeChevallier, and W.T. Liu. 2010. Pyrosequencing Analysis of Bacterial Biofilm Communities in Water Meters of a Drinking Water Distribution System. *Appl. Environ. Microbiol.* 76(16): 5631-5635.
- Schneider O.D., D.M. Hughes, Z. Bukhari, M.W. LeChevallier, P. Schwartz, P. Sylvester, and J.J. Lee. 2010. Determining Vulnerability and Occurrence of Residential Backflow. *JAWWA*. 102(8): 52-63.
- **Teunis**, **P.F.M.**, **M. Xu**, **K.K. . Fleming**, **J. Yang**, **C.L. Moe**, **and M.W. LeChevallier.** 2010. Enteric Virus Infection Risk from Intrusion of Sewage into a Drinking Water Distribution Network. *Environ. Sci. Technol.* 44:8561-8566.
- Weinrich, L.A., O.D. Schneider, and M.W. LeChevallier. 2011. Bioluminescence-Based Method for Measuring Assimilable Organic Carbon in Pretreatment Water for Reverse Osmosis Membrane Desalination. *Appl. Environ*.

Microbiol. 77(3): 1148-1150.

- Yang J., M.W LeChevallier, P.F.M. Teunis, and M. Xu. 2011. Managing risks from virus intrusion into water distribution systems due to pressure. J. Water & Health. 9(2): 291-305.
- Schneider, O., M. LeChevallier, L. Weinrich, and E. Giraldo. 2011. The impact of desalination pretreatment on membrane fouling. *Environmental Science & Engineering* 24(6): 12-15. <a href="http://ese.dgtlpub.com">http://ese.dgtlpub.com</a>.
- **Hwang C, F. Ling G.L. Andersen, M.W. LeChevallier, and WT Liu.** 2011. Evaluation of methods for the extraction of DNA from drinking water distribution system biofilms. *Microbes Environ.* 27:9-18.
- Schneider, O., M. LeChevallier, L. Weinrich, and E. Giraldo. 2011. Study Examines Impact of Desalination Pretreatment on Organic Matter *WaterWorld*

 $\underline{\text{http://www.waterworld.com/index/display/article-display/4161895419/articles/waterworld/volume-27/issue-12/editorial-features/study-examines-impact-of-desalination-pretreatment-on-organic-matter.html}$ 

- **Hwang, C., F. Ling, G.L. Andersen, M.W. LeChevallier, and W-T Liu.** 2012. Evaluation of methods for the extraction of DNA from drinking water distribution system biofilms. *Microbes Environ*, 27:9–18.
- **Schneider, O.D, L. Weinrich, and M.W. LeChevallier**. 2012. Seawater desalination practices and increase AOC levels, study revels. Water Reuse & Desalination. 2(4): 20-21.
- **Hwang, C., F. Ling, G. Andersen, M. LeChevallier, and W-T Liu**. 2012. Microbial community dynamics of an urban drinking water distribution system subjected to phases of chloramination and chlorination treatments" *Appl. Environ. Microbiol.* 78(22): 7856-7865.
- **Weinrich, L., C.N. Haas, and M.W. LeChevallier**. 2013. Recent advances in measuring and modeling reverse osmosis membrane fouling in seawater desalination: a review. Journal of Water Reuse and Desalination. 3(2): 85-101. doi: 10.2166/wrd.2013.056
- **LeChevallier, M.**W. 2014. Prepare for the Revised Total Coliform Rule. *Opflow*, May Issue, 14-18. http://dx.doi.org/10.5991/OPF.2014.40.0029.
- LeChevallier, M.W. 2014. Impact of Climate Change on Water Infrastructure. JAWWA 106(4): 79-81.
- Hirani, Z.M., Z. Bukhari, J. Oppenheimer, P. Jjemba, M.W. LeChevallier, and J.G. Jacangelo. 2014. Impact of MBR cleaning and breaching on passage of selected microorganisms and subsequent inactivation by free chlorine. *Water Research*, 57: 313-324.
- **LeChevallier, M.W.** 2014. Conducting self-assessments under the revised Total Coliform Rule. *JAWWA* 106 (9): 90-102
- **Xu M., J. Yang, D.M. Hughes, and M.W. LeChevallier.** 2014. Survey of pressure management in water distribution Systems. *JAWWA* 106 (11): e518 3524. <a href="http://dx.doi.org/10.5942/jawwa.2014.106.0144">http://dx.doi.org/10.5942/jawwa.2014.106.0144</a>.
- **Jjemba, P., W. Johnson, Z. Bukhari and M. LeChevallier.** 2014. Review of the leading challenges in maintaining reclaimed water quality during storage and distribution. Journal of Water Reuse and Desalination 4(4): 209-237.
- Yang, J., O.D. Schneider, P.K. Jjemba, and M.W. LeChevallier. 2015. Microbial Risk Modeling for Main Breaks. *JAWWA* 107 (2): E97-E108. DOI: <a href="http://dx.doi.org/10.5942/jawwa.2015.107.0010">http://dx.doi.org/10.5942/jawwa.2015.107.0010</a>
- Wen, J., Y. Liu, Y. Tu and M.W. LeChevallier. 2015. Energy and chemical efficient nitrogen removal at a full-scale MBR water reuse facility. AIMS Environmental Science 2(1): 42-55. doi: 10.3934/environsci.2015.1.42, http://www.aimspress.com/article/10.3934/environsci.2015.1.42
- **Jjemba, P.K., W. Johnson, Z. Bukhari and M. W. LeChevallier.** 2015. Occurrence and Control of *Legionella* in Recycled Water Systems. *Pathogens* 4: 470-502; doi:10.3390/pathogens4030470.
- Zhang, Y., P-Y. Hong, M.W. LeChevallier and W-T. Liu. 2015. Phenotypic and phylogenetic identification of coliform bacteria obtained from 12 USEPA approved coliform methods. *Appl. Environ. Microbiol.* 81(15): 6012–6023. doi:10.1128/AEM.01510-15.
- Ling, F., C. Hwang, M.W. LeChevallier, Gary L Andersen, and W-T Liu. 2015. Core-satellite populations and seasonality of water meter biofilms in a metropolitan drinking water distribution system. The ISME Journal, 7 August 2015; pp1-14. doi:10.1038/ismej.2015.136.
- Connell, M., A. Stenson, L. Weinrich, M. LeChevallier, S.L. Boyd, R.R. Ghosal, R. Dey, and A.J. Whelton. 2016. PEX and PP Water Pipes: Assimilable Carbon, Chemicals, and Odors. JAWWA, 108(4): E192-E204. http://dx.doi.org/10.5942/jawwa.2016.108.0016
- Weinrich, L., M. LeChevallier and C. N. Haas. 2016. Contribution of assimilable organic carbon to biological fouling in seawater reverse osmosis membrane treatment. Water Research 101: 203-213. http://dx.doi.org/10.1016/j.watres.2016.05.075

**Schneider, O.D. and M.W. LeChevallier.** 2017. A Cost-Effective Treatment Process for Producing High-Quality Drinking Water. JAWWA. 109(3): 39-47.

**Johnson, W.J., P.K. Jjemba, Z. Bukhari, LeChevallier, M.W.** 2018. Occurrence of *Legionella* in Non-Potable Reclaimed Water. *JAWWA* 110(3): 15-27. <a href="https://www.awwa.org/publications/journal-awwa/abstract/articleid/68666658.aspx">https://www.awwa.org/publications/journal-awwa/abstract/articleid/68666658.aspx</a>

Hamilton, K.A., M.T. Hamilton, W. Johnson, P. Jjemba, Z. Bukhari, M. LeChevallier, C.N. Haas. 2018. Health risks from exposure to Legionella in reclaimed water aerosols: Toilet flushing, spray irrigation, and cooling towers. *Water Research*. 134: 261-279. https://doi.org/10.1016/j.watres.2017.12.022

**Ling, F., R. Whitaker, M.W. LeChevallier, W.T Liu.** 2018. Drinking water microbiome assembly induced by water stagnation. ISME Journal. <a href="https://doi.org/10.1038/s41396-018-0101-5">https://doi.org/10.1038/s41396-018-0101-5</a>

Schneider, O.D., M.W. LeChevallier, J. Yang, D.M. Hughes, and H. Reed. 2018. Control Disinfection Byproducts With Spray Stripping in Storage Tanks. *Opflow*. July 2018, 24-27. https://doi.org/10.1002/opfl.1037

Hamilton, K.A., M.T. Hamilton, W. Johnson, P. Jjemba, Z. Bukhari, M. LeChevallier, C.N. Haas, P.L. Gurian. 2018. Risk-based critical levels of *Legionella pneumophila* for 2 indoor water uses. *Environmental Science & Technology*. 2019 53 (8), 4528-4541. https://doi.org/10.1021/acs.est.8b03000

**LeChevallier MW. 2019.** Monitoring distribution systems for *Legionella pneumophila* using Legiolert. AWWA Wat Sci. 2019;e1122. <a href="https://doi.org/10.1002/aws2.1122">https://doi.org/10.1002/aws2.1122</a>.

Cotruvo, JA, D. Purkiss, Stan Hazan, F.P. S. Iii, P. DeMarco, M. LeChevallier. 2019. Managing *Legionella* and Other Pathogenic Microorganisms in Building Water Systems. *JAWWA*. 111(2): 54-59. https://doi.org/10.1002/awwa.1236

Hull, N.M, F. Ling, A.J. Pinto, M. Albertsen, H.G. Jang, .P-Y. Hong, K.T. Konstantinidis, M. LeChevallier, R.R. Colwell, and W.-T. Liu. 2019. Drinking Water Microbiome Project: Is it Time? *Trends in Microbiology*. April 25, 2019. https://doi.org/10.1016/j.tim 2019.03.011.

**LeChevallier MW. 2019.** Occurrence of culturable *Legionella pneumophila* in drinking water distribution systems. AWWA Wat Sci. 2019;e1139. http://dx.doi.org/10.1002/aws2.1139

**LeChevallier M.W., T.J. Mansfield, J. MacDonald Gibson**. 2019. Protecting wastewater workers from disease risks: Personal protective equipment guidelines. Water Environment Research, Sep 27 2019, 1–10. https://doi.org/10.1002/wer.1249

Wen J., M.W. LeChevallier, W. Tao. 2020. Nitrification kinetics and microbial communities of activated sludge as a full-scale membrane bioreactor plant transitioned to low dissolved oxygen operation. Journal of Cleaner Production 252 (2020) 119872. https://doi.org/10.1016/j.jclepro.2019.119872

**LeChevallier, M.W.** 2020. Managing *Legionella pneumophila* in Water Systems. *JAWWA*. 112(2): 11-23. https://doi.org/10.1002/awwa.1444

**LeChevallier, M.W.** 2020. Where in the Water World is Gretta? International Journal of Hygiene and Environmental Health. Volume 226, May 2020, 113528 https://doi.org/10.1016/j.ijheh.2020.113528

Wen J., M.W. LeChevallier, W. Tao. 2020. Microbial community similarity and dissimilarity inside and across full-scale activated sludge processes for simultaneous nitrification and denitrification. Water Science & Technology, 81(2): 333-344. https://doi.org/10.2166/wst.2020.112

**LeChevallier, M.W.** 2021. Guidance on Developing a *Legionella pneumophila* Monitoring Program for Utility Distribution Systems. Health Education and Public Health. 4(1): 369 - doi: 10.31488/HEPH.158

# REPORTS or BOOK CHAPTERS:

McFeters, G.A., M.W. LeChevallier and M.J. Domek. 1984. Injury and the improved

recovery of coliforms from drinking water. U.S. Environmental Protection Agency, Cincinnati, Ohio.

**LeChevallier, M.W.** 1988. Disinfection of bacterial biofilms. pp. 905-915. *In* R.J. Jolley et al. (eds.). *Water Chlorination Vol. 6, Chemistry and Health Effects*. Lewis Publishers, Inc. Chelsea, MI.

**LeChevallier, M.W., and G.A. McFeters**. 1988. Microbiology of activated carbon. pp. 104-119. *In* G. A. McFeters (ed.), *Drinking Water Microbiology, Progress and Recent Developments*. Springer-Verlag. New York.

**LeChevallier, M. W., Betty, H. Olson, and G. A. McFeters.** 1989. *Assessing and Controlling Bacterial Regrowth in Distribution Systems*. American Water Works Association Research Foundation, Denver, CO.

**LeChevallier, M. W.** 1991. Biocides and the current status of biofouling control in water systems. pp. 113-132. *Proceedings of International Workshop on Industrial Biofouling and Biocorrosion*. Springer-Verlag Publishers.

LeChevallier, M.W., W. D. Norton, R. G. Lee and J. B. Rose. 1991. Giardia and Cryptosporidium in Water Supplies.

American Water Works Association Research Foundation, Denver, CO.

- **Lechevallier, M. W., W. D. Norton, and R. G. Lee.** 1991. Evaluation of a method to detect Giardia and Cryptosporidium in water. *In* J. R. Hall, and G. D. Glysson (eds.), *Monitoring Water in the 1990's Meeting New Challenges*, ASTM STP 1102, American Society for Testing and Materials, Philadelphia, PA.
- **LeChevallier, M. W.** 1992. Characterization of *Giardia* and *Cryptosporidium* Removal in Drinking Water. pp. 106-110. In: B. Scheiner (ed.), *Advances in Filtration and Separation Technology, Vol. 5.* American Filtration Society. Gulf Publishing Co., Houston, Texas.
- Berger, P. S., M. W. LeChevallier, and D. J. Reasoner. 1992. Seminar Publication Control of Biofilm Growth in Drinking Water Distribution Systems. EPA/625/R-92/001 U.S. Environmental Protection Agency, Washington, DC.
- **LeChevallier, M. W. and W. D. Norton.** 1993. Treatments to Address Source Water Concerns: Protozoa. p. 145-164. *In* G. C. Craun (ed.) *Safety of Water Disinfection Balancing Chemical and Microbial Risks*. ILSI Press, Washington, DC.
- Kaplan, L.A. and M. W. LeChevallier. 1993, Assimilable Organic Carbon Measurement Techniques, American Water Works Association Research Foundation, Denver, CO.
- Kirmeyer, G. J., G. W. Foust, G. L. Pierson, J. J. Simmler, and M. W. LeChevallier. 1993. *Optimizing Chloramine Treatment*. American Water Works Association and AWWA Research Foundation, Denver, CO.
- **LeChevallier, M. W. and W. D. Norton.** 1995. Plant Optimization using Particle Counting for Treatment of *Giardia* and *Cryptosporidium*. pp. 180-187. In: W.B. Betts, D. Casemore, C. Fricker, H. Smith, and J. Watkins (eds.), *Protozoan Parasites and Water*, Royal Society of Chemistry, Cambridge, UK.
- **LeChevallier, M. W., N. J. Welch, and D. B. Smith.** 1996. Factors Limiting Microbial Growth in the Distribution System Full Scale Experiments. American Water Works Association and AWWA Research Foundation, Denver, CO.
- **Rose, J. B., J. T. Lisle, and M. W. LeChevallier.** 1997. Waterborne Cryptosporidiosis: Incidence, Outbreaks & Treatment Strategies. p. 93-109. *In* R. Fayer (ed.), Cryptosporidium *and Cryptosporidiosis*. CRC Press, Inc., Boca Raton, FL.
- Abbaszadegan, M., P.W. Stewart, C.P. Gerba, and M.W. LeChevallier. 1998. Application of PCR Technologies for Virus Detection in Ground Water. American Water Works Association Research Foundation, Denver, CO.
- LeChevallier, M.W., C.D. Norton, A. Camper, P. Morin, B. Ellis, W. Jones, A. Rompré, Michèle Prévost, Joséé Coallier, P. Servais, D. Holt, A. Delanoue, and J. Colbourne. 1998. *Microbial Impact of Biological Filtration*. American Water Works Association Research Foundation, Denver, CO.
- McTigue, N.E., M.W. LeChevallier, H. Arora, and J. Clancy. 1998. *National Assessment of Particle Removal by Filtration*. American Water Works Association Research Foundation, Denver, CO.
- LeChevallier, M.W., M. Abbaszadegan, A.K. Camper, G. Izaguirre, M. Stewart, D. Naumovitz, M. Marshall, C.R. Sterling, P. Payment, E.W. Rice, C.J. Hurst, S. Schaub, T.R. Slifko, J.B. Rose, H.V. Smith, and D.B. Smith. 1999. Emerging Pathogens: Names to Know and Bugs to Watch Out For. pp. 136-172. *Identifying Future Drinking Water Contaminants*. National Academy Press, Washington, DC.
- **LeChevallier, M.W.** 1999. Biofilms in Drinking Water Distribution Systems: Significance and Control. pp. 206-219. *Identifying Future Drinking Water Contaminants*. National Academy Press, Washington, DC.
- Sattar, S.A., C. Chauret, V.S. Springthorpe, D. Battigelli, M. Abbaszadegan, and M. LeChevallier. 1999. Giardia *Cysts and* Cryptosporidium *Oocyst Survival in Watersheds and Factors Affecting Inactivation*. AWWA Research Foundation and American Water Works Association. Denver, CO.
- **Geldreich, E.E. and M. W. LeChevallier**. 1999. Microbial Water Quality in Distribution Systems. pp. 18.1-18.49, In: R. D. Letterman (ed.), *Water Quality and Treatment*, 5<sup>th</sup> edition, McGraw-Hill, NY.
- **LeChevallier**, **M.W.** 1999. Biofilms in Water Distribution Systems: Control and Remediation. pp. 220-230. In: C. W. Keevil, A. Godfree, D. Holt, and C. Dow (eds.), *Biofilms in Aquatic Systems*, Royal Society of Chemistry, Cambridge, UK
- **LeChevallier, M. W.** 1999. *Mycobacterium avium* Complex. Pp. 99-102. In: Waterborne Pathogens; Manual of Water Supply Practices M48, First Edition. American Water Works Association, Denver, Co.
- McFeters, G. A., and M. W. LeChevallier. 2000. Chemical Disinfection and Injury of Bacteria in Water. pp. 255-275. In: R. R. Colwell and D. J. Grimes (eds.), *Non-Culturable Microorganisms in the Environment*. ASM Press, Washington, DC.
- Kirmeyer, G. J., M. Friedman, J. Clement, A. Sandvig, P. F. Noran, K. D. Martel, D. Smith, M. LeChevallier, C. Volk, E. Antoun, D. Hiltebrand, J. Dyksen, and R. Cushing. 2000. *Guidance Manual for Maintaining Distribution System Water Quality*. AWWA Research Foundation and American Water Works Association. Denver, CO.

- Najm, I.N., L. Boulos, M. LeChevallier, C. Norton, C. Volk, A. Randall, I. Escobar, L. Kiene, and C. Campos. 2000. *Case Studies of the Impacts of Treatment Changes on Biostability in Full Scale Distribution Systems*. AWWA Research Foundation and American Water Works Association. Denver, CO.
- Camper, A. K., P. Butterfield, B. Ellis, W. L. Jones, W. B. Anderson, P. M. Huck, R. Slawson, C. Volk, N. Welch, and M. LeChevallier. 2000. *Investigation of the Biological Stability of Water in Treatment Plants and Distribution Systems*. AWWA Research Foundation and American Water Works Association. Denver, CO.
- **LeChevallier M. W., M. Abbaszadegan, and G. D. Di Giovanni**. 2000. Detection of infectious *Cryptosporidium parvum* oocysts in environmental water samples using an integrated cell culture-PCR. (CC-PCR) system. pp. 53-65. In: S. Belkin (ed.), *Environmental Challenges*, Kluwver Academic Publishers, Dordrech, The Netherlands.
- Cornwell, D. A., M. J. MacPhee, N. E. McTigue, H. Arora, G. DiGiovanni, M. LeChevallier, and J. S. Taylor. 2001. Treatment Options for *Giardia*, *Cryptosporidium*, and Other Contaminants in Recycled Backwash Water. AWWA Research Foundation and American Water Works Association. Denver, CO.
- Kirmeyer, G. J., M. Friedman, K. Martel, D. Howie, M. LeChevallier, M. Abbaszadegan, M. Karim, J. Funk, and J. Harbour. 2001. *Pathogen Intrusion into the Distribution System*. AWWA Research Foundation and American Water Works Association. Denver, CO.
- **LeChevallier, M. W.** 2001. Exposure assessment: occurrence of pathogens in drinking water. pp. 67-88. *In*: G. F. Craun, F. S. Hauchman, and D. E. Robinson (eds.) *Microbial Pathogens and Disinfection By-Products in Drinking Water.* ILSI Press, Washington, DC.
- LeChevallier, M. W., C. D. Norton, J. O. Falkinham, III, M. D. Williams, R. H. Taylor, and H. E. Cowan. 2001. *Occurrence and Control of Mycobacterium avium Complex.* AWWA Research Foundation and American Water Works Association. Denver, CO.
- Bitton, G., D. L. Balkwill, R. S. Burlage, D. Capone, T. L. Crisman, S. E. Dowd, H. C. Flemming, C. P. Gerba, M. W. LeChevallier, A. Leis, E. Madsen, J. A. Nienow, K. Scow, R. J. Seviour, L. D. Stetzenbach, M. H. Stewart, and D. C. White (editors). 2002. *Encyclopedia of Environmental Microbiology, Volumes 1-6.* John Wiley & Sons, Inc. New York, NY.
- **LeChevallier, M. W.** 2002. Microbial Removal by Pretreatment, Coagulation, and Ion Exchange. pp. 2012-2019. *In* G. Bitton (ed.), *Encyclopedia of Environmental Microbiology, Volume 4.* John Wiley & Sons, Inc. New York, NY.
- **Arora, H. and M. W. LeChevallier**. 2002. Occurrence of Protozoa in Spent Filter Backwash Water. pp. 2261-2267. *In* G. Bitton (ed.), *Encyclopedia of Environmental Microbiology, Volume 5*. John Wiley & Sons, Inc. New York, NY.
- **Au, K. K., and M. W. LeChevallier.** 2002. Removal of Pathogenic Microbes by Granular High-Rate Filtration. pp. 2707-2713. *In* G. Bitton (ed.), *Encyclopedia of Environmental Microbiology, Volume 5*. John Wiley & Sons, Inc. New York, NY.
- Di Giovanni, G. D, M. R. Karim, M. W. LeChevallier, J. R. Weihe, F. A. Abrams, M. L. Spinner, S. N. Boutros, J. S. Chandler. 2002. Overcoming Molecular Sample Processing Limitations: Quantitative PCR. 00-HHE-2b. Co-Published by Water Environment Research Foundation, Alexandria VA and IWA Publishing, London, UK.
- LeChevallier, M. W., G. Di Giovanni, J. L. Clancy, Z. Bukhari, S. Bukhari, J. S. Rosen, J. Sobrinho, and M. M. Frey. 2002. Source Water Assessment Variability of pathogen Concentrations. AWWA Research Foundation and American Water Works Association. Denver, CO.
- Casale, R. J., M. W. LeChevallier, and F. W. Pontius. 2002. Manganese Control and Related Issues. AWWA Research Foundation and American Water Works Association. Denver, CO.
- Bell, K., M. LeChevallier, M. Abbaszadegan, G. Amy, S. Shinha, M. Benjamin, and E. Ibrahim. 2002. Enhanced and Optimized Coagulation for Particulate and Microbial Removal. AWWA Research Foundation and American Water Works Association. Denver, CO.
- Pope, M. L., B. Ellis, J. S. Rosen, K. Connell, J. Pulz, M. LeChevallier, C. Rodgers, S. Regli, and D. Schmelling. 2003. Using *E. coli* to Indicate Source Water Susceptibility to High Concentrations of *Cryptosporidium*. pp. 397-436. In: M. J. McGuire, J. L. McLain, and A. Obolensky (eds.), *Information Collection Rule Data Analysis*, AWWA Research Foundation and American Water Works Association, Denver, Co.
- LeChevallier, M. W., M. Karim, R. Aboytes, R. Gullick, J. Weihe, B. Earnhardt, J. Mohr, J. Starcevich, J. Case, J. S. Rosen, J. Sobrinho, J. L. Clancy, R. M. McCuin, J. E. Funk, and D. J. Wood. 2003. *Profiling Water Quality Parameters From Source Water to The Household Tap.* AWWA Research Foundation and American Water Works Association. Denver, CO.
- **LeChevallier, M. W.** 2003. Conditions favouring coliform and HPC bacterial regrowth in drinking water and on water contact surfaces. pp. 177-197. In: J. Bartram, J. Cotruvo, M. Exner, C. Fricker, and A. Glasmacher (eds)., *Heterotrophic Plate Counts and Drinking-water Safety*. IWA Publishing, London, UK.

- Karim, M. R., M. W. LeChevallier, and F. W. Pontius. 2004. Workshop to Evaluate Calicivirus Detection Methods for Environmental Samples. AWWA Research Foundation and American Water Works Association. Denver, CO.
- Kirmeyer G., K. Martel, G. Thompson, L. Radder, W. Klement, M. LeChevallier, H. Baribeau, and A. Flores. 2004. *Optimizing Chloramine Treatment, Second Edition*. AWWA Research Foundation and American Water Works Association. Denver, CO.
- Freidman, M. L. Radder, S. Harrison, D. Howie, M. Britton, G. Boyd, H. Wang, R. Gullick, M. LeChevallier, D. Wood, and J. Funk. 2004. Verification and Control of pressure Transients and Intrusion in Distribution Systems. Awwa Research Foundation, Denver, CO.
- **Means, E. G. and M. LeChevallier.** 2004. Water Quality Management: How to Structure it within a Utility. Awwa Research Foundation, Denver, CO.
- **LeChevallier, M. W. and K. K. Au.** 2004. *Water Treatment and Pathogen Control.* ISBN 9241562552, World Health Organization. Geneva, Switzerland.
- **LeChevallier, M. W.** 2004. Control, Treatment and Disinfection of *Mycobacterium avium* Complex in Drinking Water, pp. 143-168. *In*: S. Pedley, J. Bartram, G. Rees, A. Dufour, J. Cotruvo (eds.), *Pathogenic Mycobacteria in Water*. ISBN: 1843390590, World Health Organization. Geneva, Switzerland.
- **Powell, J., J. Clement, M. Brandt, R. Casey, D. Holt, W. Grayman, and M. LeChevallier**. 2004. *Predictive Models for Water Quality in Distribution Systems*. Awwa Research Foundation, Denver, CO.
- Karim, M. R., M. W. LeChevallier, M. Abbaszadegan, A. Alum, J. Sobrinho, and J. Rosen. 2004. Field Testing of USEPA Methods 1601 and 1602 for Coliphage in Groundwater. Awwa Research Foundation, Denver, CO.
- **LeChevallier, M.** W. 2005. Microbial Water Quality Within the Distribution System. Pp. 83-104. In: M. J. MacPhee (ed.), *Distribution System Water Quality Challenges in the 21st Century A Strategic Guide*. American Water Works Association. Denver, CO.
- **Bukhari, Z., J. Weihe, and M. W. LeChevallier.** 2005. *Improved Detection Methods for E. coli O157 H7*. Awwa Research Foundation, Denver, CO.
- Cotton, C., L. Passantino, D. Owen, M. Bishop, M. Valade, W. Becker, R. Joshi, J. Young, M. LeChevallier, and R. Hubel. 2005. *Integrating UV Disinfection into Existing Water Treatment Plants*. Awwa Research Foundation, Denver, CO.
- Fleming, K.K., R.W. Gullick, J. P. Dugandzic, and M. W. LeChevallier. 2006. Susceptibility of Distribution Systems to Negative Pressure Transients. Awwa Research Foundation, Denver, CO.
- National Research Council. 2006. Drinking Water Distribution Systems Assessing and Reducing Risks. National Academies Press. Washington, DC.
- **LeChevallier, M. and M. Buckley.** 2007. Clean Water: What is acceptable microbial risk? American Academy of Microbiology. Washington, DC.
- Friedman, M., A. Hanson, K. Dewis, G. Kirmeyer, M. LeChevallier, G. Gagnon, L. Truelstrup Hansen, C. Krentz, M. Mosher, S. J. Payne, J. Rosen, T. Hargy, J. Sobrinho, M.-C. Besner, and M. Prevost. 2009. Strategies to Manage and Respond to Total Coliform and *E. coli* in Distribution Systems. Water Research Foundation, Denver, CO.
- Welter, G.J., M. W. LeChevallier, S. L. Spangler, J. A. Cotruvo, and R. H. Moser. 2009. Guidance for Decontamination of Water System Infrastructure –2981. Water Research Foundation, Denver, CO.
- **Jjemba, P.K., L. Weinrich, W. Cheng, E. Giraldo, and M.W. LeChevallier.** 2010. Guidance Manual on the Microbiological Quality and Biostability of Reclaimed Water Following Storage and Distribution. WateReuse Foundation, Alexandria, VA.
- Schneider, O.D., Z. Bukhari, D. Hughes, K. Fleming, M.W. LeChevallier, P. Schwartz, P. Sylvester, and J.J. Lee. 2010. Determining Vulnerability and Occurrence of Residential Backflow. Water Research Foundation, Denver, CO.
- Friedman, M., G. Kirmeyer, J. Lemieux, M. LeChevallier, S. Seidl, and J. Routt. 2010. Criteria for Optimized Distribution Systems. Water Research Foundation, Denver, CO.
- **Bukhari, Z., A. Nocker and M. LeChevallier**. 2010. "*Cryptosporidium*" in the protozoa section of a website developed by Montana State University, with sponsorship from the Water Research Foundation. To access the website, visit: <a href="http://waterbornepathogens.org">http://waterbornepathogens.org</a>.
- **LeChevallier, M.W., M.Cl. Besner, M. Friedman, and V.L. Speight.** 2011. Microbiological Quality Control in Distribution Systems. pp. 21-1 to 21-84. In: J.K. Edzwald (ed.), *Water Quality & Treatment A Handbook on Drinking Water* (6 ed.). American Water Works Association and McGraw-Hill, Inc. Denver, Colo.

**LeChevallier, M.W., Xu, M., Yang, J. Teunis, P. and K.K. Fleming.** 2011. Managing Distribution System Low Transient Pressures for Water Quality. Water Research Foundation, Denver, CO.

**Bukhari, Z., and M. LeChevallier.** 2011. "Enhanced Monitoring to Protect Distribution System Water Quality', pp. 349-367. In: R. Clark, Hakim and Ostfeld (eds), *Handbook of Water and Wastewater Systems Protection*. Springer, NY.

**Grayman, W.M., M.W. LeChevallier, and T. Walski.** 2012. Water Distribution Systems in 2050. pp. 243-252. In: W.M. Grayman, D.P. Loucks, and L. Saito (eds.), *Toward a Sustainable Water Future Visions for 2050*, American Society of Civil Engineers, Reston, VA.

**Bukhari, Z., MW LeChevallier, G. Widmer, U. Zuckerman.** 2012. Determination of Cryptosporidium and Giardia Occurrence, Infectivity, and Genotyping in Wastewater Effluents. WRF 06-003-1. WateReuse Research Foundation, Alexandria, VA.

**Jjemba, P.K., Z. Bukhari, and M.W. LeChevallier.** 2013. Examination of Microbiological Methods for use with Reclaimed Water, WRF 07-01-1. WateReuse Research Foundation, Alexandria, VA.

**Jacangelo, J., M. LeChevallier, J. Oppenheimer, Z. Hirani, and Z. Bukhari.** 2013. Disinfection Guidelines for Satellite Water Recycling Facilities. WRF 08-07-1. WateReuse Research Foundation, Alexandria, VA.

**LeChevallier, M.W.** 2014. "Measurement of biostability and impacts on water treatment in the US." pp. 33-56. In, D. van der Kooij and P.WJJ. van der Wielen (eds.), Microbial Growth in Drinking Water Supplies. IWA Publishing, London

Kirmeyer, G.J., T.M. Thomure, R. Rahman, J.L. Marie, M.W. LeChevallier, J. Yang, D.M. Hughes, and O. Schneider. 2014. *Effective Microbial Control Strategies for Main Breaks and Depressurization.* Water Research Foundation, Denver, CO.

**LeChevallier**, M.W., **J. Yang**, **M. Xu**, **D. Hughes and G. Kunkel**. 2014. *Pressure Management Industry Practices and Monitoring Procedures*. Water Research Foundation, Denver, CO.

**Jjemba, P., W. Johnson, Z. Bukhari and M. LeChevallier.** 2015. Develop Best Management Practices to Control Potential Health Risks and Aesthetic Issues Associated with Reclaimed Water Storage and Distribution. WRF11-03. WateReuse Research Foundation, Alexandria, VA.

**Bukhari, Z., M.W. LeChevallier, P.K. Jjemba, W, Johnson, C.N. Haas, and K. Hamilton**. 2018. Development of a Risk Management Strategy for *Legionella* in Recycled Water Systems, WRF12-05. WateReuse Research Foundation, Alexandria, VA.

Masters, S., J.L. Clancy, S. Villegas, M. LeChevallier, and Z. Bukhari. 2018. Customer Messaging on Opportunistic Pathogens in Plumbing Systems. WRF-4664. The Water Research Foundation, Denver, CO.

National Academies of Sciences, Engineering, and Medicine. 2019. Management of Legionella in Water Systems. Washington, DC: The National Academies Press. https://doi.org/10.17226/25474.

# CONFERENCE PROCEEDINGS:

#### Seidler, R.J., T.M. Evans, J.R. Kaufman, C.E. Waarvick and M.W. LeChevallier.

1980. New directions in coliform methodology. Proc. Amer. Water Works Assoc. Water Tech. Conf. Miami Beach, Florida.

McFeters, G.A., A.K. Camper, D.G. Davies, S.C. Broadaway, and M.W. LeChevallier. 1985. Enumeration, transport and survival of bacteria attached to granular activated carbon in drinking water. *Proc. AWWA Water Quality Technol. Conf.*, Dec. 8-11, Houston, TX.

**McFeters, G.A. and M.W. LeChevallier.** 1986. The occurrence and significance of injured bacteria in water and wastewater. *Proc. Water Pol. Control Fed.* Philadelphia, PA.

McFeters, G.A., M.W. LeChevallier, A. Singh and J.S. Kippen. 1986. Health significance and detection of injured bacteria in drinking water. *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.*, Portland, OR.

**LeChevallier, M.W., C.D. Cawthon and R.G. Lee.** 1988. Mechanisms of bacterial survival in chlorinated drinking water. paper #24, *Proc. Internat. Conf. Water and Wastewater Microbiol*. Newport Beach, CA.

McFeters, G.A. and M.W. LeChevallier. 1986. The occurrence and significance of injured bacteria in water and wastewater. *Proc. Water Pol. Control Fed.* Philadelphia, PA.

**LeChevallier, M.** W. 1989. Treatment to meet the microbiological MCL in the face of a coliform regrowth problem. *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.*, Philadelphia, PA.

**Kaplan, L. A., M. W. LeChevallier, and T. L. Bott**. 1992. Evaluation of Utility Laboratory Personnel Performance of a Standardized AOC Technique. *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.*, Orlando, FL. pp. 1169-1185

- **LeChevallier, M.W., and C.D. Norton**. 1993. Relationship Between Corrosion and Disinfection of Biofilm Bacteria. *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.*, Miami, FL, pp. 1409-1413.
- **LeChevallier, M.W., and W.D. Norton.** 1993. Impact of the Enhanced Surface Water Treatment Rule on Water Utility Operations. *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.*, Miami, FL, pp. 1733-1737.
- **Ibrahim, E. A., L. F. Henry, and M. W. LeChevallier.** 1994. Effectiveness of Enhanced Coagulation for Removal of Natural Organic Matter. *Proc. AWWA Enhanced Coagulation Workshop,* Charleston, SC. American Water Works Association, Denver. CO.
- **LeChevallier, M. W., N. J. Shaw, and D. B. Smith.** 1994. Factors Related to Regrowth of Coliform Bacteria. pp. 657-661, *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.*, San Francisco, CA. American Water Works Association, Denver, CO.
- **Arora, H., M.W. LeChevallier, and W.D. Norton.** 1995. The Relationship Between Particle Counts and Parasites: Full-Scale Experiences". pp. 137-145, *Proc. Amer. Water Works Assoc. Annual Conference and Exposition*, Anaheim, CA. American Water Works Association, Denver, CO.
- McTigue, N., M. LeChevallier, and J. Clancy. 1995. National Assessment of Particle Removal by Filtration. pp. 169-174., *Proc. Amer. Water Works Assoc. Annual Conference and Exposition*, Anaheim, CA. American Water Works Association, Denver, CO.
- Norton, C., M. LeChevallier, M. Boswell, J. Hanchak, and J. Robinson. 1995. Implementation of Chloramination and Corrosion Control to Limit Microbial Activity in the Distribution System. pp. 1392-1409. *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.*, New Orleans. American Water Works Association, Denver, CO.
- Abbaszadegan, M., P. Stewart, M. LeChevallier, M. Yates, C. Gerba. 1995. Occurrence of Enteroviruses in Groundwater and Correlation with Water Quality Parameters. pp. 2099-2114. *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.*, New Orleans. American Water Works Association, Denver, CO.
- Arora, H. M.W. LeChevallier, and P. Barrer. 1996. Energy Management Opportunities in the American Water System. *Proc. Amer. Water Works Assoc. Annual Conf.*, Toronto, Ont. American Water Works Association, Denver, CO.
- Bell, K., M. LeChevallier, M. Abbaszadegan, G. Amy, F. Ballinger, K. Bienlien, E. Ibrahim, R. Mantiega, S. Sinha, D. Verges, C. Volk. 1996. "Enhanced and Optimized Coagulation for Removal of Particulate and Microbial Contaminants". pp. 303-315, *Proc. Amer. Water Works Assoc. Annual Conf.*, Toronto, Ont. American Water Works Association, Denver, CO.
- **Volk, C.J., M.W. LeChevallier, and N. Welch.** 1996. Limiting Coliform Regrowth through Control of AOC. *Proc. ISWA Workshop on Influence of Natural Organic Matter Characteristics on Drinking Water treatment and Quality.* Poitiers, France.
- Abbaszadegan, M., P. Stewart, M. LeChevallier. 1996. A Strategy for the Detection of Viruses in Groundwater by PCR. *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.* Boston MA. American Water Works Association, Denver, CO.
- Battigelli. D., C. Chauret, K. Nolan, S. Sattar, M. LeChevallier, and M. Abbaszadegan. 1996. Environmental Survival of *Cryptosporidium parvum* and *Giardia muris* in Canada and the United States. *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.* Boston MA. American Water Works Association, Denver, CO.
- Bell, K., M. LeChevallier, M. Abbaszadegan, G. Amy, M. Benjamin, F. Ballinger, K. Bienlien, E. Ibrahim, R. Mantiega, S. Sinha, D. Verges, C. Volk. 1996. "Enhanced and Optimized Coagulation for Removal of Particulate and Microbial Contaminants." *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.* Boston MA. American Water Works Association, Denver, CO.
- **LeChevallier, M.W., A. Arora, D. Battigelli, and M. Abbaszadegan.** 1996. Chlorine Dioxide for Control of Cryptosporidium and Disinfection By-Products. *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.* Boston MA. American Water Works Association, Denver, CO.
- Volk, C.J., M.W. LeChevallier, and N. Welch. 1996. Organic Nutrient Control during Conventional Treatment for Limiting Coliform Regrowth in Distributed Drinking Water. *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.* Boston MA. American Water Works Association, Denver, CO.
- Norton, C.D. and M.W. LeChevallier. 1996. Microbial Impact of Biological Filtration. *Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf.* Boston MA. American Water Works Association, Denver, CO.
- Rosen, J.S., M. LeChevallier, and A. Roberson. 1996. Development and Analysis of a National Protozoan Database. Proc. Amer. Water Works Assoc. Water Qual. Tech. Conf. Boston MA. American Water Works Association, Denver, CO.
- **LeChevallier, M.W.** 1997. What Do Studies of Public Water Systems Groundwater Sources Tell Us? p. 65-68. *In Under the Microscope, Examining Microbes in Groundwater.* Proc. Groundwater Foundation 12<sup>th</sup> Ann. Fall

Symposium, Boston, MA.

**Di Giovanni, G. D., M. LeChevallier, D. Battigelli, A. Campbell, and M. Abbaszadegan.** 1997. Detection of *Cryptosporidium parvum* by enzyme immunoassay and the polymerase chain reaction. Amer. Water Works Assoc. Water Qual. Tech. Conf., Denver, CO.

**Abbaszadegan, M. R. Mantiega, K. Bell, and M. LeChevallier.** 1997. Enhanced Coagulation for Removal of Microbial Contaminants. Amer. Water Works Assoc. Water Qual. Tech. Conf., Denver, CO.

**LeChevallier M.W., W.D. Norton, T.B. Atherholt, M. Abbaszadegan, and J. Rosen.** 1997. Variation in *Giardia* and *Cryptosporidium* Levels in Source Water: Statistical Approaches to Analyzing ICR Data. Amer. Water Works Assoc. Water Qual. Tech. Conf., Denver, CO.

**Abbaszadegan M., P. Stewart, and M. LeChevallier.** 1997. Occurrence of Viruses in Groundwater and Groundwater Disinfection Rule: A National Study. Amer. Water Works Assoc. Water Qual. Tech. Conf., Denver, CO.

**LeChevallier, M.W.** 1997. Case Studies on Compliance with the Proposed M/DBP Cluster. Amer. Water Works Assoc. Water Qual. Tech. Conf., Denver, CO.

**LeChevallier, M.W.** 1997. Biofilms in Water Distribution Systems: Control and Remediation. Amer. Water Works Assoc. Water Qual. Tech. Conf., Denver, CO.

Bell, K., M. Abbaszadegan, C. Volk, E. Ibrahim, R. Mantiega, M. LeChevallier. 1997. Optimized Coagulation: A Method for Compliance. Amer. Water Works Assoc. Water Qual. Tech. Conf., Denver, CO.

Volk, C.J., A.K. Camper, and M.W. LeChevallier. 1997. Effects of Treatment Changes on Bacterial Water Quality in Model Distribution Systems. Amer. Water Works Assoc. Water Qual. Tech. Conf., Denver, CO.

**LeChevallier M.W., W.D. Norton, M. Abbaszadegan, T.B. Atherholt, and J. Rosen.** 1997. Development of a Monitoring Strategy to Determine Variations in *Giardia* and *Cryptosporidium* Levels in a Watershed. 1998. Proc. Source Water Protection International 98. Dallas, TX.

**Abbaszadegan, M., N. Shaw, W. Norton and M. W. LeChevallier, and R. Selburg.** 1998. Monitoring Streams for Effect of Wastewater Discharge and Rainfall on *Giardia* and *Cryptosporidium* in Illinois. Source Water Protection Symposium: A Focus on Waterborne Pathogens, AWWA, Denver, CO.

**Abbaszadegan, M., M. A. Denhart, and M. W. LeChevallier.** 1998. Detection of Viruses in One-Liter Sample Volume using RT-PCR. Amer. Water Works Assoc. Water Qual. Tech. Conf., San Diego, CA.

**Abbaszadegan, M., G. D. Di Giovanni, J. Czajka, and M. LeChevallier.** 1998. Development of a PCR-based kit for the detection of *Cryptosporidium parvum* using a fluorescent homogeneous format. Amer. Water Works Assoc. Water Qual. Tech. Conf., San Diego, CA.

Abbaszadegan, M., M. LeChevallier, J. Rosen, L. Zimmerman, and K. Merrell. 1998. Microbial & Chemical Measurements for Ground Water Vulnerability Assessment. Amer. Water Works Assoc. Water Qual. Tech. Conf., San Diego, CA.

Bell, K. A., K. D. Bienlien, M. W. LeChevallier. 1998. Solids Contact Clarification for the Removal of NOM, Water Quality Tech. Conference, San Diego, CA.

**Di Giovanni, G. D., M. LeChevallier, and M. Abbaszadegan.** 1998. Detection of infectious *Cryptosporidium parvum* oocysts recovered from environmental water samples using immunomagnetic separation (IMS) and integrated cell culture-PCR (CC-PCR). Amer. Water Works Assoc. Water Qual. Tech. Conf., San Diego, CA.

**Friedman, M., G. Kirmeyer, E. Antoun, and M. LeChevallier.** 1998. Developing and Implementing a Distribution System Flushing Program. Amer. Water Works Assoc. Water Qual. Tech. Conf., San Diego, CA.

**LeChevallier, M. W.** 1998. Biofilms in Drinking Water Distribution Systems: Significance and Control. National Research Council, Water Science and Technology Board, Committee on Drinking Water Contaminants, Washington, D.C.

**LeChevallier, M. W.** 1998. Developing a Monitoring Strategy to Determine Variations in *Giardia* and *Cryptosporidium* Levels in a Watershed. National Water Research Institute/USEPA - Source Water 98 Conference, Dallas. TX.

**LeChevallier, M. W., C. D. Norton, J. O. Falkinham, M. D. Williams, and R. H. Taylor.** 1998. *Mycobacterium avium* Complex in Drinking Water. Amer. Water Works Assoc. Water Qual. Tech. Conf., San Diego, CA.

Norton, C. D., and M. W. LeChevallier. 1998. The Survival of *Mycobacterium avium* Complex in Biofilms: A Pilot Study. Amer. Water Works Assoc. Water Qual. Tech. Conf., San Diego, CA.

Norton, C. D., M. W. LeChevallier, and C. Volk. 1998. Impact of Treatment Changes on Distribution System Biostability. Amer. Water Works Assoc. Water Qual. Tech. Conf., San Diego, CA.

- Volk, C., E. Dundore, J. Schierman, M. LeChevallier. 1998. What Strategies for Corrosion Control? Amer. Water Works Assoc. Water Qual. Tech. Conf., San Diego, CA.
- Funk, J.E., D.J. Wood, S.J. Vuuren, M.W. LeChevallier, M. Friedman. Pathogen Intrusion into Distribution Systems Due to Transients. 3rd ASME/JSME Joint Fluids Engin. Conf., San Francisco, CA.
- Friedman, M., G. Kirmeyer, K. Martel, J. Funk, M. LeChevallier, and M. Jackman. 1999. Pathogen Intrusion into the Distribution System: Is Your System at Risk? Amer. Water Works Assoc. Water Qual. Tech. Conf., Tampa, FL.
- LeChevallier, M.W., M. Abbaszadegan, M. Karim, J.E. Funk. and M. Friedman. 1999. Pathogen Intrusion into Potable Water. Amer. Water Works Assoc. Water Qual. Tech. Conf., Tampa, FL.
- Abbaszadegan, M., M. Denhart, M. Spinner, M.W. LeChevallier, and G. DiGiovanni. 1999. Identification of Viruses present in Groundwater Cell Culture Harvests by Polymerase Chain Reaction (PCR). 1999. Amer. Water Works Assoc. Water Qual. Tech. Conf., Tampa, FL.
- Frey, M.M., J.S. Rosen, L.P. Sullivan, J. Sobrinho, and M. LeChevallier. 1999. Monitoring US Source Waters for *Cryptosporidium*. Amer. Water Works Assoc. Water Qual. Tech. Conf., Tampa, FL.
- Aboytes, R., C.A. Rapoff, F. Abrams, G. DiGiovanni, M.W. LeChevallier, and M. Abbaszadegan. 1999. Finished Water Monitoring for Infectious *Cryptosporidium* Oocysts using Immunomagnetic Separation (IMS) and Cell Culture-Polymerase Chain Reaction (PCR). Amer. Water Works Assoc. Water Qual. Tech. Conf., Tampa, FL.
- **DiGiovanni, G.D., M. Denhart, M.W. LeChevallier, and M. Abbaszadegan.** 1999. Quantitation of Intact and Infectious *Cryptosporidium parvum* Oocysts using Quantitative Sequence Detection (QSD). Amer. Water Works Assoc. Water Qual. Tech. Conf., Tampa, FL.
- Arora, H., M. LeChevallier, and G. DiGiovanni. 1999. Treatment Strategies for Removal of Microbial and Other Contaminants from Spent Filter Backwash Water. Amer. Water Works Assoc. Water Qual. Tech. Conf., Tampa, FL.
- DiGiovanni, G. J. Czajka, M. Schaffer, G. Tice, M. LeChevallier, and M. Abbaszadegan. 1999. A Fluorescent Homogeneous Format PCR Kit for the Detection of *Cryptosporidium parvum*. Amer. Water Works Assoc. Water Qual. Tech. Conf., Tampa, FL.
- Lovins, W. J. Taylor, R. Kozik, M. Abbaszadegan, M. LeChevallier, and K. Ajy. 1999. Multi-Contaminant Removal by Integrated Membrane Systems. Amer. Water Works Assoc. Water Qual. Tech. Conf., Tampa, FL.
- **Abbaszadegan, M., M. Karim, M. LeChevallier, and C. Gerba**. 2000. Temperature Trends and Repeat Sampling of Viruses in Groundwater. *Proc. Amer. Water Works Assoc. WQTC*, Salt Lake City, UT, November 5-8. American Water Works Association, Denver, CO.
- Aboytes, R., G.D. Giovanni, F.A. Abrams, J. Nieroda, N. Shaw, R. Kozik and M. LeChevallier. 2000. Detection of Infectious *Cryptosporidium parvum* by Cell Culture PCT (CC-PCR). *Proc. Amer. Water Works Assoc. WQTC*, Salt Lake City, UT, November 5-8. American Water Works Association, Denver, CO.
- **Arora, H., M. W. LeChevallier, and G. D. Di Giovanni**. 2000. Strategies for Treatment of Spent Filter Backwash Water prior to its Recycle. Proceedings of the Annual Conference and Exposition, Denver, CO, June 11-15. American Water Works Association, Denver, CO.
- Arora, H. M. LeChevallier, R. Aboytes, E. Bouwer, C. O'Melia, W. Ball, W. Weiss, and T. Speth. 2000. Full-Scale Evaluation of Riverbank Filtration at Three Midwest Water Treatment Plants. *Proc. Amer. Water Works Assoc. WQTC*, Salt Lake City, UT, November 5-8. American Water Works Association, Denver, CO.
- **Arora, H., M. LeChevallier, and G. DiGiovanni.** 2000. Occurrence of Pathogens and Contaminants in Spent Filter Backwash Water. *Proc. Amer. Water Works Assoc. WQTC*, Salt Lake City, UT, November 5-8. American Water Works Association, Denver, CO.
- **Au, K. K. and M. W. LeChevallier**. 2000. Effects of Oxidation on Particle Removal: The Role of Natural Organic Matter. *Proc. Amer. Water Works Assoc. WQTC*, Salt Lake City, UT, November 5-8. American Water Works Association, Denver, CO.
- Casale, R. J. and M. W. LeChevallier. 2000. Contaminants in Drinking Water Treatment Chemicals: A Survey of the American Water Works System. *Proc. Amer. Water Works Assoc. WQTC*, Salt Lake City, UT, November 5-8. American Water Works Association, Denver, CO.
- Gullick, R. W., M. W. LeChevallier, and T. S. Phillips. 2000. Occurrence of Methyl Tertiary Butyl Ether (MTBE) and Perchlorate in Drinking Water Sources. Proceedings of the American Water Works Association Annual Conference and Exposition, Denver, CO, June 11-15. American Water Works Association, Denver, CO.
- Gullick, R. W., M. W. LeChevallier, J. S. Taylor, and W. Lovins. 2000. Nanofiltration for Removal of Microbials and DBP Precursors from Mississippi River Water: Pilot Study Results. Proceedings of the American Water Works

- Association Annual Conference and Exposition, Denver, CO, June 11-15. American Water Works Association, Denver, CO.
- LeChevallier, M. W., G. Di Giovanni, J. L. Clancy, Z. Bukhari, S. Bukhari, T. Hargy, J. S. Rosen, J. Sobrinho, and M. M. Frey. 2000. Source Water Assessment: Variability of Pathogen Concentrations. *Proc. Amer. Water Works Assoc. WQTC*, Salt Lake City, UT, November 5-8. American Water Works Association, Denver, CO.
- **LeChevallier, M. W., C. D. Norton, J. O. Falkinham, III, M. D. Williams, R. H. Taylor.** 2000. *Mycobacterium avium* in Drinking Water. Proceedings of the American Water Works Association Annual Conference and Exposition, Denver, CO, June 11-15. American Water Works Association, Denver, CO.
- **LeChevallier, M. W., C. D. Norton, M. Karim**. 2000. Microbial Concerns in Distribution Systems. Proceedings of the American Water Works Association Annual Conference and Exposition, Denver, CO, June 11-15. American Water Works Association, Denver, CO.
- MacPhee, M. J., N. E. McTigue, D. A. Cornwell, M. LeChevallier, H. Arora, and G. DiGiovanni. 2000. Critical Assessment of Alternatives for Treatment of Spent Filter Backwash Water. *Proc. Amer. Water Works Assoc. WQTC*, Salt Lake City, UT, November 5-8. American Water Works Association, Denver, CO.
- Norton, C., M. LeChevallier, J. Falkinham, M. Williams. 2000. Recovery Methods for M. avium Complex in Water and Biofilm Samples. Proc. Amer. Water Works Assoc. WQTC, Salt Lake City, UT, November 5-8. American Water Works Association, Denver, CO.
- Rosen, J. S., B. D. Ellis, and M. W. LeChevallier. 2000. ICR Microbiology Data: Temporal Spatial, and Source Water Characteristics. *Proc. Amer. Water Works Assoc. WQTC*, Salt Lake City, UT, November 5-8. American Water Works Association, Denver, CO.
- Young, D. A., J. A. Nieroda, G. DiGiovanni, and M. W. LeChevallier. 2000. Detection of *Bacillus* in Finished Water. *Proc. Amer. Water Works Assoc. WQTC*, Salt Lake City, UT, November 5-8. American Water Works Association, Denver. CO.
- Arora, H., M. W. LeChevallier, G. D. DiGiovanni, and Z. Bukhari. 2001. Long-Term, Full-Scale Evaluation of Ultraviolet Technology to Meet the Enhanced Surfaced Water Treatment Rules. Proceedings of the First International Congress on Ultraviolet Technologies 2001. Washington, DC. June 14-16. International Ultraviolet Association, Ayr, Ontario, Canada.
- Arora, H., M. W. LeChevallier, G. D. DiGiovanni, and Z. Bukhari. 2001. Long-Term, Full-Scale Evaluation of Ultraviolet Technology to Meet the Enhanced Surfaced Water Treatment Rules. Proceedings of the American Water Works Association Annual Conference and Exposition, Washington, D.C., June 17-21. American Water Works Association. Denver. CO.
- Casale, R. J., M. W. LeChevallier, and F. W. Pontius. 2001. Review of Manganese Control and Related Manganese Issues. Proceedings of the American Water Works Association Annual Conference and Exposition, Washington, D.C., June 17-21. American Water Works Association, Denver, CO.
- **Gullick, R. W., and M. W. LeChevallier.** 2001. The Process of Establishing an Early Warning Monitoring Network on the Upper Mississippi River. Proceedings of the American Water Works Association Annual Conference and Exposition, Washington, D.C., June 17-21. American Water Works Association, Denver, CO.
- **LeChevallier, M.W.** 2001. Microbial Issues within Distribution Systems. Proceedings of the American Water Works Association Annual Conference and Exposition, Washington, D.C., June 17-21. American Water Works Association, Denver, CO.
- **LeChevallier, M.W. and M. Karim.** 2001. Transient Cross-Connections: a Source of Microbial Risk in pressurized Systems. Proceedings of the American Water Works Association Annual Conference and Exposition, Washington, D.C., June 17-21. American Water Works Association, Denver, CO.
- **LeChevallier, M. W.**, G. D. Di Giovanni, and J. W. Czaika. 2001. Evaluation of the BAX System PCR Assay for Screening *Cryptosporidium parvum*. Proceedings of the American Water Works Association Annual Conference and Exposition, Washington, D.C., June 17-21. American Water Works Association, Denver, CO.
- Di Giovanni, G.D., J. W. Czaika, A. M. Stolzfus, Z. Bukhari, M.W. LeChevallier and R. Aboytes. 2001. Evaluation of the BAX System PCR Assay for Screening *Cryptosporidium parvum. Proc. Amer. Water Works Assoc. WQTC*, American Water Works Association, November 11-15, Nashville, TN.
- **Sobrinho, J., J. Rosen, M. LeChevallier, M. Frey, and J. Clancy.** 2001. Variability of Pathogens and Indicators in Source Waters. *Proc. Amer. Water Works Assoc. WQTC*, American Water Works Association, November 11-15, Nashville, TN.
- LeChevallier, M. W., M. Karim, R Aboytes, J. Weihe, B. Earnhardt, J. Mohr, J. Starcevich, and J. Case. 2002. Water Quality Monitoring during the Davenport Epidemiology Study. Proceedings of the American Water Works Association Annual Conference and Exposition, New Orleans, LA. June 16–20. American Water Works Association, Denver, CO.

- Au, K. K., W. C. Becker, M. W. LeChevallier, and C. R. O'Melia. 2002. The Role of Oxidants on Particle Removal. Proceedings of the American Water Works Association Annual Conference and Exposition, New Orleans, Louisiana, June 16–20. American Water Works Association, Denver, CO.
- Gullick, R. W., G. L. Thompson, M. W. LeChevallier, and M. Friedman. 2002. Field Verification of Negative Pressures from Hydraulic Surges in Distribution Systems. Proceedings of the American Water Works Association Water Quality Technology Conference. American Water Works Association, November 10–14, Seattle, WA.
- **Barbeau, H. A. Flores, G. Kirmeyer, and M. W. LeChevallier.** 2002. A Survey on Chloramine Treatment. Proceedings of the American Water Works Association Water Quality Technology Conference. American Water Works Association, November 10–14, Seattle, WA.
- **Kirmeyer, G., M. LeChevallier, and H. Barbeau.** 2002. Decision Process on Whether to Switch from Free Chlorine to Chloramines. Proceedings of the American Water Works Association Water Quality Technology Conference. American Water Works Association, November 10–14, Seattle, WA.
- **Haddix, P. L., and M. W. LeChevallier.** 2003. Application of a Simple Assimilable Organic Carbon (AOC) Test. Proceedings of the American Water Works Association Annual Conference and Exposition, Anaheim, CA. June 15–19. American Water Works Association, Denver, CO.
- **Bukhari, Z. and M. W. LeChevallier.** 2003. Using Ultraviolet Light for Disinfection of Finished Water. Proceedings of the American Water Works Association Annual Conference and Exposition, Anaheim, CA. June 15–19. American Water Works Association, Denver, CO.
- **Aboytes R., and M. W. LeChevallier.** 2003. Detection of Infectious *Cryptosporidium* in Filtered Drinking Water. Proceedings of the American Water Works Association Annual Conference and Exposition, Anaheim, CA. June 15–19. American Water Works Association, Denver, CO.
- **Aboytes, R. and M. LeChevallier.** 2003. Detection of infectious *Cryptosporidium* in filtered drinking water. Proceedings of the American Water Works Association Water Quality Technology Conference. November 2 6, Philadelphia, PA, American Water Works Association, Denver, CO.
- **Bukhari, Z. and M. LeChevallier.** 2003. Use of ultraviolet light as a disinfection barrier for treatment of finished water. Proceedings of the American Water Works Association Water Quality Technology Conference. November 2 6, Philadelphia, PA, American Water Works Association, Denver, CO.
- **Hughley, C., E. Ibrahim, P. L. Haddix, and M. LeChevallier.** 2003. Evaluation of the Deltatox and Eclox systems for water toxicity screening. Proceedings of the American Water Works Association Water Quality Technology Conference. November 2 6, Philadelphia, PA, American Water Works Association, Denver, CO.
- **Karim, M. R., M. Abbaszadegan, A. Alum, and M. LeChevallier.** 2003. Virological quality of groundwater. Proceedings of the American Water Works Association Water Quality Technology Conference. November 2 6, Philadelphia, PA, American Water Works Association, Denver, CO.
- **LeChevallier, M. W. 2003.** Assuring the microbial safety of drinking water. Proceedings of the American Water Works Association Water Quality Technology Conference. November 2 6, Philadelphia, PA, American Water Works Association, Denver, CO.
- **LeChevallier, M.W.** 2004. Maintaining Water Quality in the Distribution System: Controlling Biofilm Regrowth. Proceedings of the American Water Works Association Annual Conference and Exposition, Orlando, FL, June 13-17. American Water Works Association, Denver, CO.
- Haddix, P.L., C. Hughley, and M. W. LeChevallier. 2004. Review of Microcystin Algal Toxin Treatment and Microcystin Levels in 33 North American Surface Water Supplies. Proceedings of the American Water Works Association Annual Conference and Exposition, Orlando, FL, June 13-17. American Water Works Association, Denver, CO.
- **LeChevallier, M.W., R. E. Hubel.** 2004. Cryptosporidium Risk Analysis to Determine UV Performance Guidelines. Proceedings of the American Water Works Association Annual Conference and Exposition, Orlando, FL, June 13-17. American Water Works Association, Denver, CO.
- LeChevallier, M. W., R. W. Gullick, R. C. Svindland, M. J. Friedman, D. Wood, and J. E. Funk. 2004. Field Monitoring of Distribution System Negative Pressure Events. Proceedings of the American Water Works Association Annual Conference and Exposition, Orlando, FL, June 13-17. American Water Works Association, Denver, CO.
- **Bukhari, Z. J. Weihe, and M. W. LeChevallier.** 2004. Rapid Procedures for the Isolation and Detection of E. coli O157:H7 from Source and Finished Water. AWWA Water Quality and Technology Conference, San Antonio, Texas, November 14-17, 2004.
- **Gullick, R. W., J. P. Dugandzic and M. W. LeChevallier.** 2004. Distribution System Modeling for Identifying the Potential for Low-Pressure Surge Events. AWWA Water Quality and Technology Conference, San Antonio, Texas, November 14-17, 2004.

LeChevallier, M.W. 2004. Utility Perspective on TCR Six-Year Review. AWWA Water Quality and Technology Conference, San Antonio, Texas, November 14-17, 2004

**Karim, M., Z. Bukhari, and M. W. LeChevallier.** 2004. Microbiological Quality of Reuse Water. AWWA Water Quality and Technology Conference, San Antonio, Texas, November 14-17, 2004.

**Karim, M., M. Abbaszadegan, and M. W. LeChevallier.** 2004. Evaluation of Coliphage for Assessing the Vulnerability of Groundwater to Fecal Contamination. AWWA Water Quality and Technology Conference, San Antonio, Texas, November 14-17, 2004.

**LeChevallier, M.W., T.J. Wade, S.E. Shaw, D. Levy, R.L. Calderon, J.M. Colford, Jr.** 2004. Results of the Big WET: An Epidemiology Study of the Microbiological Quality of Drinking Water in Davenport, Iowa. AWWA Water Quality and Technology Conference, San Antonio, Texas, November 14-17, 2004.

**LeChevallier, M.W., R. Aboytes, N. Shaw, C. Rheinecker, Z. Bukhari, F.A. Abrams.** 2004. LT2 Laboratory Capacity for Protozoan Parasites Analysis. AWWA Water Quality and Technology Conference, San Antonio, Texas, November 14-17, 2004.

**LeChevallier, M. W.** 2004. Effect of Nutrients on Biomass in Distribution Systems. AWWA Water Quality and Technology Conference, San Antonio, Texas, November 14-17, 2004.

Fleming, K.K., R.W. Gullick, J.P. Dugandzic, and M. W. LeChevallier. 2005. Using Distribution System Modeling to Identify the Potential for Low Pressure Surge Events. AWWA Water Quality and Technology Conference, Quebec City, Quebec, November 6-10, 2005.

**LeChevallier, M. W., S. L. Spangler, G.J. Welter, J. A. Cotruvo, and R. H. Moser.** 2005. Standard Operating Procedures for Decontamination of Water Infrastructure. AWWA Water Quality and Technology Conference, Quebec City, Quebec, November 6-10, 2005.

**LeChevallier, M.W.** 2006. Effectiveness of Water Treatment Processes for Control of *Mycobacterium avium* Complex in Drinking Water. Proceedings of the 2006 International Symposium on waterborne pathogens. Atlanta, GA, March 16-18. American Water Works Association, Denver, CO.

# INVITED ADDRESSES:

Dr. LeChevallier delivers 20 to 30 presentations each year at local, regional, national and international conferences, teleconferences, workshops, training seminars and university symposia.

Presenter for the American Water Works Association Research Foundation "Technology Transfer Workshops." A series of workshops designed to transmit information to water utility users. 1989-1998, 2001.

Presenter on national webcasts and video conferences sponsored by AWWA, Water Reuse Research Foundation, or Water Research Foundation, 1995, 2007-2017.

Videos: Coping with Bacterial Regrowth in Distribution Systems with AWWA Research Foundation. 1991.

Microscopic Detection of Giardia and Cryptosporidium in Water. USEPA. 1993.

Understanding the *Cryptosporidium* Challenge: Preventing Waterborne Disease. American Water Works Association. 1994.

Water Main Breaks and Repairs. American Water Works Association. 2015.



June 8, 2021

Zaida I. Figueroa Correa, DrPh, MSc U.S. EPA Office of the Administrator, Science Advisory Board Staff Office 1200 Pennsylvania Ave., NW (MC-1400R), Ronald Reagan Building (3rd Floor)

Washington, DC 20460 Mobile: **(b) (6)** 

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RE: **Dr. Thomas (Tom) L. Richard,** Pennsylvania State University Candidate for EPA's Science Advisory Board (SAB) on Agricultural Sciences

Dear Dr. Correa:

Dr. Thomas Richard is a professional of extraordinary distinction, whose academic preparedness in political economy and engineering agricultural, environmental and biological systems, and experiences gained from conducting world-class research in lignocellulosic bioenergy while providing leadership as the Director of Institutes of Energy and the Environment (IEE) at Pennsylvania State University, will undoubtedly contribute to the EPA Science Advisory Board from perspectives of a student of problems that cut across the borders of many subject matters or disciplines. In his role as IEE Director, where he facilitates research, teaching and outreach for over 500 faculty members from multiple disciplines and oversees a research expenditure of over \$100 M annually, he has experience and gained respect for his abilities to build collaborations.

The U.S. food and agricultural systems (FAS) have huge challenges facing ahead. We need to simultaneously increase food supply globally by nearly 70% for the additional 2.7 billion people expected by 2050, while at the same time achieve this increase with fewer available natural resources for agriculture per capita and fulfilling demands for significantly reducing impact on the health of ecosystems. The current FAS are linear, that is, they use resource to make products, use products, and discard unused products and resources as waste. They are not resilient (as experienced during the current pandemic), and a significant contributor to GHGs, other pollutants and climate change, which must change. Research programs and policies of EPA and USDA must come together to meet these challenges.

Currently, I am a leading member of an American Society of Agricultural and Biological Engineers (ASABE) team that is engaging leaders of multiple professional societies and stakeholder groups in numerous activities which would lead to broadly adopting circularity as a central goal to transform food and agriculture. Additionally, the National Academies has agreed to conduct a study and hold forums to draw leading experts from academia, and public and private sectors to advance this effort.

I mention the above to let you know that Dr. Richard has been an important contributor to this effort where he has displayed a clear understanding of the challenges ahead and thoughtfully presented perspectives for creating transdisciplinary, systems approach for developing solutions to address complexities of the intertwined natural and food and agricultural systems. He is one who is deeply committed to developing new technologies for a healthy human-agro-ecosystems.

Dr. Richard is a skilled organizational leader who as the president of the Institute of Biological Engineering (IBE – A Society for Advancing *Biology-Inspired* Engineering) attracted nation's most eminent scholars of synthetic biology to IBE. He is unbashful when reaching out to leaders of other

disciplines and was particularly engaging with those who are at the frontiers of biology. Additionally, Dr. Richard is a gifted communicator. He will effectively articulate broad scientific matters and the important role EPA could play to affect the agro-energy-environment nexus. As an example, his 2010 paper describing the challenges for scaling up biofuel infrastructure published in *Science* attests to his clear-eyed abilities for envisioning future needs, identifying critical limitations, and directing/leading efforts to find ways for preparing the nation to meet coming challenges.

I sincerely believe that Dr. Richard will be an important contributor to EPA SAB and he will help the Board objectively assess relevance of the current knowledge, programs and plans, and provide creative advice on scientific matters and policies. I hope you will give his nomination your utmost consideration and invite Dr. Richard to the Board for a full three-year term.

If you have any questions for me, please feel free to contact me by email or phone: 706-207-5126.

Sincerely,

Brahm P. Verma

Professor *Emeritus*, Biological and Agricultural Engineering, and Associate Director *Emeritus*, College (Faculty) of Engineering

University of Georgia Email: verma@uga.edu

Brahm P. Perm

#### Short BIO of Brahm P. Verma

Brahm Verma is professor emeritus and associate director emeritus of the Faculty of Engineering which was officially organized as College of Engineering at the University of Georgia on July 1, 2012. Since the mid-1980's he has championed for the emerging discipline of biological engineering and served as the founding president (1995-97) of the Institute of Biological Engineering (IBE) – A Society for Advancing Biology-Inspired Engineering. He has also created other organizations including the very successful Faculty of Engineering at the University of Georgia. The Faculty of Engineering conceptualized as a new kind of school/college of engineering with open borders and a self-organizing governance system influenced by living systems. The new College of Engineering - "A College without Borders" - has adopted the organizing principles of the Faculty of Engineering.

Dr. Verma received BS (1959), MS (1965) and PhD (1968) degrees in agricultural engineering. Since 1965 he has over 350 publications and presentations at professional meetings and 2 patents. He has published on similitude in engineering; mechanization/automation of greenhouse and nursery; modeling using artificial intelligence techniques; and information systems and decision methodology. He has received numerous awards, for example, best research paper awards, IBE Lifetime Visionary Award, ASAE/ASABE Fellow and IBE Fellow. The IBE Visionary Award is named after his wife and him (Brahm and Sudha Verma Visionary Award) to recognize visionary individuals in Biological Engineering.

In retirement, Dr. Verma remains engaged in graduate education and the advancement of comprehensive engineering at UGA. He is a member of the UGA Teaching Academy and UGA Emeriti Scholars - a group of distinguished retired faculty members who continue to contribute towards building academic stature of the University of Georgia. He is currently a member of team leading national efforts to broadly adopt the goal to transform food and agriculture to circular systems by 2050.

41 Arden Avenue Trenton, NJ 08638

June 9, 2021

Thomas Armitage, Ph.D.
Designated Federal Officer
Scientific Advisory Board
U.S. Environmental Protection Agency

## Dear Dr. Armitage,

There could be no better choice for the Environmental Protection Agency's Scientific Advisory Board (SAB) than Ana Baptista, Ph.D., who is currently an Assistant Professor of Professional Practice in Environmental Policy and Sustainable Management in the Milano School of Policy, and Associate Director of the Tishman Environment and Design Center, at the New School. I am a close professional colleague of Ana's and have worked on environmental justice (EJ) issues with her for years and therefore am in a perfect position to know that this statement is true for several reasons.

First, on a purely scientific and intellectual basis, Ana has superior analytical skills. I believe these skills are due to a combination of professional training, a devotion to and interest in her work, and superior intellect. Several of my EJ and environmental colleagues have commented on her brilliance, and her educational training has provided both substantive knowledge and skill development. Her personal background has produced a desire to help communities that motivated her to develop skills and professional abilities which allowed achievement of this goal. Her overall analytical skills guarantee that no matter the topic, the SAB will benefit from her abilities.

Second, with the new administration's stated emphasis on EJ, there should be multiple people on the SAB who are experts on this topic and Ana is one of the top EJ scholars in the country. Similar to her analytical abilities, her expertise in EJ is grounded in her lived experience, educational training and professional experience. Ana grew up in the City of Newark, which is the largest urban area in New Jersey and an EJ community. In fact, the New Jersey Department of Environmental Protection has recognized that Newark suffers from a cumulative impacts problem, i.e. multiple sources pouring pollution into residential neighborhoods that suffer from a variety of social vulnerabilities. Coming of age in this environmentally compromised area has produced a devotion to helping communities that has guided Ana's career. She earned degrees in urban planning and public policy, biology and environmental studies that have given her an ability to address EJ issues in the context of both the physical sciences, and the social, physical and economic development of cities. This context and skill-set is relatively unique among academics and anyone working on environmental and EJ issues. She has combined this background with practical experience in the EJ field. Not only did Ana grow up in Newark but she also spent years of her professional life addressing EJ issues in the City by working for the Ironbound Community Corporation, which is one of the leading EJ organizations in the country.

She eventually became the organization's EJ director. Currently, her substantive professional activities as a New School professor are almost wholly devoted to researching EJ issues and working with EJ communities.

Ana has also been involved in, and provided leadership for, a number EJ organizations and Initiatives, including being an important member of the Equitable and Just National Climate Platform and vice-chair of the Board of Trustees of the New Jersey Environmental Justice Alliance.

The Environmental Protection Agency (EPA) is in a position to secure someone on its SAB who is a superior scientist and academic, is highly regarded by EJ communities, and is devoted to helping communities across the country. Please do not forego this unique opportunity, please extend an invitation to Professor Ana Baptista to join EPA's SAB.

Sincerely,

Nicky Sheats, Esq., Ph.D.
Director, Center for the Urban Environment
John S. Watson Institute for Urban Policy and Research at Kean University
Member of the New Jersey Environmental Justice Alliance
(b) (6) (cell)



Dr. Keith R. Cooper • Professor
Department of Biochemistry and Microbiology
76 Lipman Drive • New Brunswick, NJ 08901-8525
Cell: (b) (6) • Fax: 732.932.8965

4/29/2021

Holly Stallworth, Ph.D. Economist and Designated Federal Officer Science Advisory Board Staff Office 1300 Pennsylvania Ave., NW Room 31179, Ronald Reagan Bldg.

Dear Dr. Stallworth:

I am writing this letter of nominating for the Dr. Gloria Post for consideration as a member of the EPA SAB. I feel that Dr. Post would add a great deal of governmental and toxicological depth to the SAB. Her training in Toxicology, Risk Assessment, and her 36 years as a member of the DJDEP Division of Science and Research (DSR) would be valuable in the deliberations of the SAB. She is considered an expert on Risk Assessment and toxicological based studies on a number of past and present chemicals of concern. She has also had extensive experience on national deliberative bodies such as IRIS, Federal-State Risk Analysis Committee, and the New Jersey Drinking Water Quality Institute (NJDWQI). She has also been involved on advisory committees and writing groups (e.g., a National Academy of Sciences Workgroup; several EPA Science Advisory Board groups; the Interstate Regulatory & Technology Committee (ITRC) PFAS document team; the New Jersey Drinking Water Quality Institute (DWQI), among others. She has also been able to write a number of seminal papers on PFAS and the studies related to their human toxicity. She works extremely well with others and when se makes a statement concerning a topic it is based on facts and interpretation from the literature. She is one of the hardest working NJDEP professionals I have worked with over the years.

I have firsthand experience with working with Dr. Post on emerging chemicals of concern since I am the Chairperson of the NJDWQI as well as a member of the Health Effects Committee. Since taking over that post the NJDWQI has been able to recommend and have promulgated MCLs for drinking water on PFNA, PFOA, PFAS and 1,2,3-trichloropropane. She demonstrated exceptional writing and interpretative skills when mining research and converting into risk assessment criteria. I also have been involved with her on several other expert panels where she has demonstrated her knowledge base and exceptional scientific acumen.

If I had a single scientist to recommend to you, she would be at the top of the list. Please feel free to contact me at the above address or via email: keith.cooper@rutgers.edu.

Sincerely,

Keith R. Cooper, Ph.D. Professor of Toxicology



June 4, 2021

Dr. Thomas Armitage
U.S. Environmental Protection Agency
Science Advisory Board
Designated Federal officer
armitage.thomas@epa.gov

It is my personal privilege to recommend Dr. John O'Brien to serve on EPA's Scientific Advisory Board (SAB). I know Dr. O'Brien is both deserving of his nomination to the SAB and would be an asset to any committee relevant to his background should he have the honor to be selected to serve. I have personally known and worked with Dr. O'Brien for many years across both of our respective careers. In that time, we successfully worked on a wide range of energy and environmental engagements for various public and private clients and agencies. I can personally attest to Dr. O'Brien's unique mix of academic curiosity, his ability to communicate complex and challenging issues to various stakeholder groups while maintaining a sense of real-world practicality. He effortlessly moved between academic research and founding and operating successful industry businesses throughout the evolving clean energy environment.

My business relationship with John covers a number of roles including initially serving as my boss and mentoring me in providing counsel to our clients. Our relationship also included being workplace colleagues, principal investigators, and business partners. During that time, we successfully worked on a number of clean energy engagements including demonstration research for clean coal technologies, proof of concept around large scale microwave drying for moisture remediation, DOE sponsored efforts to build alternative fueled generation assets and technical support in one of the first and largest commercial solar development projects at the time, in the Commonwealth of Pennsylvania. Each of these efforts called for thoughtful research, knowledge transfer, and interaction with broad stakeholder interests. I imagine all these attributes are critical success factors to productively serving as a member of the SAB.

I am confident he would be a tremendous asset.

Feel free to contact me for any follow-up questions or clarifications.

Warmly,

#### Matthew Rose (he/him/his)

TRC Companies
Director | Advisory + Innovation | Advanced Energy Group
Philadelpia, PA 19103

C (b) (6)

mrose@trccompanies.com



## Department of Environmental Science and Policy

4400 University Drive, MS 5F2, Fairfax, Virginia 22030 Phone: 703-993-1043; Fax: 703-993-1066

June 1, 2021

Dr. Thomas Armitage
Designated Federal Officer (DFO), Science Advisory Board
U.S. Environmental Protection Agency Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N.W.
Mail Code: 1400R
Washington, DC 20460

Re: Invitation for Public Comment on the List of Candidates for EPA's Scientific Advisory Board (SAB)

## Dear Dr. Armitage:

I respectfully submit this comment in regards to the list of candidates nominated to serve on the U.S. Environmental Protection Agency's (EPA) Science Advisory Board (SAB). I have known Dr. Crystal Upperman for almost a decade. While obtaining her doctorate in Marine, Estuarine, and Environmental Science from the University of Maryland, she also managed the CDC's Building Resilience Against Climate Effects (BRACE) program for Maryland Department of Health. We were both working on climate change and health in Maryland during that time, and have since collaborated on two peer-reviewed academic papers, one of which addresses social vulnerability and public health effects from climate change.

Dr. Upperman's research expertise lies in exposure science and spatial epidemiology—clearly a relevant research area for the Science Advisory Board. Notably, she has conducted an EPA-funded national assessment of the impact of climate change, pollen exposure, and extreme heat on chronic respiratory diseases. But Dr. Upperman would make a remarkable contribution to the SAB particularly due to her breadth of expertise in working at the nexus of policy and the science of air pollution and climate change risks to public health, especially in respect to environmental justice. She has demonstrated consistent capacity to cross the boundaries of science and policy, collaborating effectively with decision-makers, industry, researchers, and communities. Moreover, Dr. Upperman has shown leadership in addressing air pollution and climate change at state, national, and international levels.

She currently leads the integration of public health information and informed risk characterization into Aclima's air pollution and greenhouse gas measurement and analysis products. In prior roles, she served as Senior Research Associate at the World Resources Institute on the Global Commission on Adaptation, and while at AECOM she was the Climate Adaptation and Resilience Lead for the Southeast US, Latin America, and the Caribbean. Further, she has experience working as an environmental regulator for the New Jersey Department of Environmental Protection and the Georgia Environmental Protection Division's Ambient Air Quality Program.

Dr. Upperman's broad experience and proven ability to work successfully with diverse groups to address the public health needs of communities makes her an ideal candidate for the SAB. I deeply encourage the appointment of Dr. Upperman as a member of this advisory board.

Sincerely,

Karen L. Akerlof, PhD

Assistant Professor, Science Communication for Environmental Decision-Making and Policy

Pan 1. aherby

George Mason University

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Fairfax, VA 22030

(o) 703-993-7069; (c) (b) (6)

kakerlof@gmu.edu



May 30, 2021

Dr. Thomas Armitage Environmental Protection Agency

Dear Dr. Armitage,

My name is Kathleen Casale, and I am the president of Sea Star Strategy, a marketing firm located on Long Island.

Please allow me to submit a letter of recommendation on behalf of Dr. John O'Brien as you consider him for a position on the EPA's Science Advisory Board.

I worked with John at Wheeled Electric Power Company and All Power Corporation for five years. Normally, I would say I worked "for" John, since he was the president of the company. But John always treated me, and the rest of the team, as equal co-workers. John was always helpful and respectful to all employees, treating everyone as a valued member of the team, without regard for age, gender, or race.

I consider myself very fortunate to work with John early in my career. Unlike many subsequent employers, John treated me as an equal and never looked down or considered me of lesser value as a woman. He set the bar very high for the employers that followed.

I began working at Wheeled Electric Power Company assisting with marketing efforts. Over time, I rose to the position of Director of Marketing. The management team under John was robustly represented by women and minorities. John assembled excellent teams and nurtured each person with an eye to their personal success. John led by example and had the respect of every member of our staff.

I learned much from John about energy and marketing, but I am most grateful for the example of outstanding leadership that he displayed everyday. I am proud to say I have modeled my own leadership style on John's consistently fair example.

Very simply, it has been a privilege and a pleasure to work alongside and learn from Dr. John O'Brien.

I am confident that Dr. O'Brien is more than qualified, in his education and experience as well as in his ability to effectively manage a diverse team, to serve on the EPA SAB

If you have need of any further details regarding my experiences with Dr. O'Brien, please feel free to contact me via e-mail at <a href="mailto:kcasale@optonline.net">kcasale@optonline.net</a> or phone at 631-505-2864.

Respectfully Yours, Kathleen Casale President, Sea Star Strategy



National Institutes of Health National Institute of Environmental Health Sciences P. O. Box 12233 Research Triangle Park, NC 27709 Website: http://www.niehs.nih.gov

**DATE:** May 26, 2021

**TO:** Dr. Thomas Armitage

**Environmental Protection Agency** 

From: Janice B. Allen, Ph.D.

Scientific Review Officer/Scientific Review Branch Division of Extramural Research and Training National Institute of Environmental Health Sciences

SUBJECT: Statement of support for candidate Dr. Patricia Morris to serve on the EPA's Scientific Advisory Board

I am very pleased to support with the highest degree of enthusiasm Dr. Patricia Morris to serve on the EPA Scientific Advisory Board. I have known and worked with Dr. Morris for nearly twenty years in the capacity of recruiting her to serve as a peer-reviewer on many scientific review panels for the National Institute of Environmental Health Sciences (NIEHS) in Research Triangle Park, NC.

Dr. Morris' broad scientific background and leadership abilities make her a perfect SAB member. Having served as a Scientific Review Officer for nearly twenty years, I have had numerous grant applications with the requirement of a Scientific Review Board or a Scientific Advisory Board to be included. I advised applicants and reviewers what to look for in a SAB/SRB member; therefore, I feel I can truthfully and unwaveringly recommend Dr. Morris to your SAB. Although Dr. Morris possesses a career of diverse scientific scope, her especial strong areas are physiologically based pharmacokinetic (PBPK) modeling; environmental health; dose-response assessment; ecosystems and the environment; health sciences; human health risk assessment; medicine; modeling; environmental risk assessment; public health; and toxicology.

Personally knowing Dr. Morris, reading her nomination synopsis, and seeing the expertise needed on the board, she definitely has all of the qualifications and experience to serve on the SAB. For example, she has held high leadership positions in several prestigious organizations (FASEB, Rockefeller Population Council, WHO, etc.). Her research was constantly funded by NIH for thirty years – a major accomplishment for a researcher. She has organized and served on many diverse workshops and panels in established and emerging scientific areas. Dr. Morris makes it a personal goal to encourage and advance the scientific careers of young trainees, especially underrepresented minorities.

On a personal note, Pat is a wonderful person, with empathy and excellent communication skills. She is one of the hardest workers I know, with exceptional organizational skills. Her integrity is beyond reproach. I feel very fortunate to have her as a colleague and friend.

In summary, I wholeheartedly and with a great deal of confidence recommend Dr. Morris to serve on your board. There is no doubt in my opinion that she will bring significant contributions to the board.

Please contact me if I can provide any additional information or if I may be of additional service.

#### Sincerely,

Janice Benson Allen, PhD
Scientific Review Officer
Scientific Review Branch
Division of Extramural Research and Training
National Institute of Environmental Health Sciences/NIH
530 Davis Drive
P.O. Box 12233, maildrop K3-03
Research Triangle Park, NC 27709

Email: Allen9@NIEHS.NIH.GOV

Phone: 984-287-3232 Fax: 301-480-3705 Cell: (b) (6) Stephen B. Traicoff



Dr. Thomas Armitage, DFO Environmental Protection Agency (202) 564–2155 armitage.thomas@epa.gov

Re: My Recommendation for Dr. John N. O'Brien to serve on the EPA's Science Advisory Board (SAB)

#### Dr. Armitage:

I am a consultant in the full spectrum of the energy sector, having worked in the upstream, midstream, and downstream sectors of the oil and gas industry as well as in electric power and renewables. My LinkedIn profile can be found here <a href="https://www.linkedin.com/in/stephen-b-traicoff-22285a3/">https://www.linkedin.com/in/stephen-b-traicoff-22285a3/</a> and my detailed CV here <a href="http://www.nrgconsultant.net/">https://www.nrgconsultant.net/</a>.

I have known John O'Brien for nearly 20 years and have work with him on more than a few occasions regarding support for energy-related litigation, with aggregate potential judgements over several billion dollars. John's work in these cases was critical in providing evidence favorable in reaching settlements for the class action plaintiffs (the public). John's work in class action is certainly not limited to the number of cases in which I have worked with him as I believe that he has supported efforts and testified in a number of other cases in which the public was the sole plaintiff.

John has always had a keen interest in public policy as it relates to energy and technology, starting with his education at Syracuse University with a B.S. in Chemistry and his follow up of an M.A. and Ph.D. in Interdisciplinary Social Sciences. He has served as Commissioner and Co-Chair for the Climate Change Working Group of the Florida Energy Commission and is now actively teaching in a number of public policy areas at Flagler College located in St. Augustine, FL. John has also been an active and successful proponent of energy efficiency and solar photovoltaic power projects in his community and has lead by example with installing solar panels on the roof of his own house.

John has also pioneered the deregulation of natural gas and electric power by founding and managing as President and CEO three separate successful gas and power marketing companies within a 15-year period that were ultimately acquired by large-cap public companies. He also has significant accomplishments in the technical sector in which he earned the status of Full Scientist at the DOE's Brookhaven National Laboratories Department of Nuclear Energy. John has developed and the USPTO has fully granted and issued US and international patents that integrate nuclear technologies with the recovery of heavy oil from oil sands and has founded a company to promote that technology.

I believe that John O'Brien's commercial, entrepreneurial, and public policy academic background and accomplishments make him an excellent candidate for the EPA's Science Advisory Board as well as to several of its Standing and Ad Hoc Committees.

Sincerely,

Stephen B. Traicoff
Stephen B. Traicoff

June 8, 2021

Dr. Zaida I. Figueroa Correa, DrPh, MSc U.S. Environmental Protection Agency Office of the Administrator Science Advisory Board Staff Office 1200 Pennsylvania Ave., NW (MC-1400R) Ronald Reagan Building (3<sup>rd</sup> floor) Washington, DC 20460

## Dear Dr. Figueroa Correa:

I am writing to enthusiastically support the nomination of Thomas Richard to EPA's Science Advisory Board on Agricultural Sciences. Tom has had a remarkable impact on agricultural sciences through his research and teaching in the areas of Energy and the Environment. In addition, Tom has excellent organizational leadership abilities. I will detail some of his outstanding contributions and abilities in the following paragraphs.

Dr. Richard has served as the Director of the Penn State Institutes of Energy and the Environment since 2008, and in addition is the Director of the Biomass Energy Center at Penn State. In these roles, Tom has had a tremendous influence on research initiatives in energy and environmental research related to agricultural science. In his role as Director, Tom facilitates research, teaching and outreach for over 500 faculty and over \$100M of research expenditures annually.

In addition to his strong leadership, Tom continues to contribute to original research. He has consistently published in refereed journals, publishing eight articles in 2017 alone. One of Tom's strengths is his ability to understand both the social and engineering aspects of a problem; for example one of his recent publications is entitled "Bridging biofuel sustainability indicators and ecosystem services through stakeholder engagement" published recently in Biomass and Bioenergy. Tom has a talent for finding real solutions that work for farmers on the land. Another unique aspect of Tom's research career is his ability to work across a wide range of topics, from biofuel production, to the impact of biofuel production and use on the environment, to bovine mortality composting. Tom is an excellent example of the ability of Biological and Agricultural Engineers to apply basic principles to solve many seemingly disparate problems. One tribute to the quality of his work is that in 2010 he had a paper published in *Science*.

There is no doubt in my mind that Tom Richard would be an excellent member of EPA's Science Advisory Board for Agricultural Sciences. He is dedicated to the field of Agriculture and is an engineer trained to evaluate the entire system, which is essential for making sound environmental decisions. In addition, Tom is an excellent leader, who has mentored many younger scientists, and

is committed to inclusivity and diversity. Dr. Richard is the type scientist that would bring his best to the Board, and I highly recommend that he be selected for this EPA Science Advisory Board.

Sincerely,

Sue Nokes, PhD, P.E.

Su E. Nokes

Professor of Biosystems and Agricultural Engineering

University of Kentucky

## West End Revitalization Association (WERA)

"We are not getting the basic public health amenities that our taxes pay for!"
PO Box 661

Mebane, North Carolina 27302

Email: wera1usa@gmail.com Cell:(b) (6)

Original Web: wera-nc.org

June 3, 2021

Dr. Thomas Armitage, Designated Federal Officer - <a href="mailto:armitage.thomas@epa.gov">armitage.thomas@epa.gov</a> Scientific Advisory Board (SAB)
US Environmental Protection Agency
Washington, DC

Regarding Nomination: Sacoby M Wilson, PhD Position: EPA's Scientific Advisory Board (SAB)

This letter of recommendation is submitted in support of Dr. Sacoby M. Wilson's application for EPA's Scientific Advisory Board (SAB). Dr. Wilson's academic and community experiences with the West End Revitalization Association (WERA) covers more than two decades.

When he was in graduate school in the School of Public Health at the University of North Carolina-Chapel Hill, we met in 2000 during the North Carolina Environmental Justice Network (NCEJN) Summit, at the Franklinton Center, Brick, N.C. His presentation was passionate and personal on the adverse impacts to poor Black communities of mega hog farms and confined animal feeding operations' (CAFOs) manure pits and odor in his home state of Mississippi. My presentation was no less passionate and personal about the denial of safe drinking water and sewer connection access for Black and Indigenous homeowners in my hometown of Mebane, N.C. (Alamance County and Orange County).

Sacoby's university learned community-based participatory research (CBPR) model did not match WERA's newly designed community-owned and managed research (COMR) approach for addressing civil rights and health disparities in the context of legal compliance and enforcements for corrective action under federal public health statues. Over the last twenty years, we have partnered on several community/campus collaborative research efforts, and national conference organizing, and tagteam presentations at local, state, national, and international conferences. Those venues include the Biotech Center, National Institute of Environmental Health Sciences, and Environmental Protection Agency (Air Quality Standards) at the Research Triangle Park, N.C., and American Public Health Association, Citizen Science Association, and Community-Campus Partnerships conferences from coast-to-coast and Canada. Our joint work resulted in a series of co-authored scholarly articles in the Johns Hopkins University Press.

Dr. Sacoby M. Wilson demonstrates the highest level of commitment for including the "community voice" in all research models and approaches and pushed his students to do the same. His community advocacy in the classroom and during field research is unsurpassed in the nation. When I retired from the EPA's National Environmental Justice Advisory Council in 2010, I recommended him for a position on the Council.

I was also honored to write a letter of recommendation for his Associate Professorship at the Maryland Institute for Applied Environmental Health and Department of Epidemiology and Biostatistics, School of Public Health, University of Maryland-College Park. Dr. Wilson is Director of the Community Engagement, Environmental Justice and Health (CEEJH) Initiative. His years of experience as an

environmental health scientist is cutting edge and invaluable for new visions environmental justice, environmental health disparities, water quality analysis, air pollution studies, built environment, industrial animal production, climate change, community resiliency, and local community sustainability.

On several occasions, I presented WERA's COMR model PowerPoints to support training his resident partners in North Charleston, South Carolina, in partnership with LAMC and CCRAB to improve air quality. WERA's years of "right to basic public health amenities" community organizing, and legal leverage experiences have also been shared in Maryland with his students and community partners.

His resume lists many awards for his contributions and achievements as an academic pioneer, environmental justice researcher, practitioner, and impacted community advocate. In 2008, Dr. Wilson was honored with an NCEJN award named in recognition of his UNC-Chapel Hill Epidemiology professor, Steve Wing International Environmental Justice, who died of cancer a few years later. Dr. Wing was a dear and mutual long-time friend who also supported the community voice in research efforts.

My wife Brenda and I served with Dr. Wilson on the Citizen Science CitSci-2019 Conference's Environmental Justice Planning Committee (2017-2019), Raleigh-NC Convention Center. We were recruited as African Americans to help bring racial and geographical diversity to the Citizen Science Association. Dr. Wilson co-wrote a National Science Foundation grant with NCSU Department of Forestry & Environmental Resources Association Professor Caren Cooper for \$75,000 that funded over fifty environmental justice community and university practitioners of various racial backgrounds from Alaska to Puerto Rico, with Omega and Brenda screening the scholarship applicants. During our CitSci-2019 Environmental Justice Dinner Panel there were over 800 attendees from all fifty states and 28 different countries.

Dr. Wilson and doctoral students are currently setting up a NIH R03 grant to evaluate a novel community-university environmental justice partnership with the West End Revitalization Association with Co-PI Omega Wilson. March 2021, Sacoby and Omega were among the twenty-five national environmental justice practitioners invited to a Whitehouse virtual meeting with newly appointed Senior Whitehouse Environmental Justice Advisor Dr. Cecilia Martinez, Climate Czar Gina McCarthy, and Director of the Council on Environmental Quality Attorney Brenda Mallory. Again, we did a tag-team presentation in support of impacted communities not present for this historic high-level meeting.

Dr. Sacoby M Wilson will be a great asset and visionary for impacted and vulnerable communities. His estimated networks will bring visibility and community level credibility to EPA's Scientific Advisory Board (SAB). He has over twenty years of successful collaborations, organizing, and grant writing. Dr. Wilson will be a win-win for your institution and its future growth. I give him my highest recommendation. If you have any additional questions, please let me know.

Sincere respect and appreciation for a friend and colleague,

Omega R Wilson, Co-Founder, West End Revitalization Association (WERA) Non-profit 501-c-3 (1995)

- > 1999 & Sept 2014: WERA filed complaints at U.S. Department of Justice (DOJ), under Title VI of the Civil Rights Act of 1964 and referenced the Environmental Justice Executive Order 12898 1994
- > 2007-10: Community Perspective Member EPA's National Environmental Justice Advisory Council
- > 2008: Community-Based Environment Justice Award by EPA's Office of Environmental Justice
- ➤ <u>AARP Bulletin</u>-April 2019, both Brenda and Omega are featured as "senior citizen citizen scientists" for collaborative problem-solving that "addresses human being in their environment."

Dr. Thomas Armitage Designated Federal Officer Environmental Protection Agency

Re: Shanti Gamper-Rabindran,

SAB Candidate

Dear Dr. Armitage,

I am very pleased to support Shanti Gamper-Rabindran as a candidate for the Science Advisory Board.

I have known Shanti for the past 30 years since she came to the United States to begin her undergraduate work as a freshman at Harvard College. Since then, she has earned advanced degrees at Oxford and Massachusetts Institute of Technology. These degrees include earth science, law and economics. She has used this interdisciplinary training in her research and teaching in the Department of Public Policy at the University of Pittsburgh.

Shanti Gamper-Rabindran would bring the perfect blend of academic rigor, social conscience and real life experience to the Science Advisory Board. She is a woman who has persisted and excelled in the face of discrimination and who has devoted her career to looking at the impact of policy not only on the environment, but on the real people who live in the areas of impact. This approach is evident in her book <a href="The Shale Dilemma">The Shale Dilemma</a> as well as in her upcoming book <a href="America's Energy Gamble">America's Energy Gamble</a>. The latter looks specifically at the role the executive branch of government plays in actions that especially affect vulnerable communities. She would bring this most current research and developed expertise to the Science Advisory Board.

In addition, Shanti has worked to bring people together to forge solutions to pressing public policy issues. She has done this not only in her books, by including chapters from multiple authors, but she has organized workshops at the University of Pittsburgh to bring together experts, government officials, business leaders and private citizens. These workshops give the non-academic public an opportunity to speak and express their point of view about how they are impacted by particular policies and give everyone the chance to learn from each other. This shows what has always been a driving force in Shanti's work-her appreciation for the real practical consequences of policy decisions and her effort to conduct and publish empirical research which will equip policy makers in making the critical decisions that affect the health and well-being of so many people.

I am confident that Shanti Gamper-Rabindran would make a positive contribution to the Science Advisory Board and urge you to select her for this position.

Sincerely yours,





June 9, 2021

Thomas Armitage, Ph.D.
Designated Federal Officer
Scientific Advisory Board
U.S. Environmental Protection Agency

Dear Dr. Armitage,

I write this letter to support Professor Sacoby Wilson's, Ph.D., candidacy for the Environmental Protection Agency's (EPA) Scientific Advisory Board (SAB). I have been a professional colleague of Sacoby's for years in the field of environmental justice (EJ) and have been impressed with both his unbelievable professional productivity and his desire to help communities Of Color and low-income communities, i.e. EJ communities.

Sacoby's academic degrees in biology, environmental health, and environmental sciences and engineering have well-equipped him to perform research that helps preserve and improve the environmental and public health of EJ communities. He has conducted numerous research projects with communities in the Washington D.C. area including Maryland, Baltimore, North Carolina and other areas of the country. The subject matter of this work has included air and water pollution, and their prevalence and impact on communities. The sheer number of projects and publications he has produced is impressive but not as impressive as the manner in which he partners with EJ communities. Sacoby involves community organizations in all aspects of his research projects and for this reason, and for his expertise, he is widely admired and highly respected in both the EJ advocacy community and the scientific community.

Sacoby is also an important member of, and in some cases a founding member of, a number of EJ organizations including the National Black Environmental Justice Network, DMV EJ Coalition, 17 for Peace and Justice, and the Charleston Community Research to Action Board. He has helped to advance the scientific side of EJ by working with governmental boards and science based, as well as health based, not for profits. This includes being a member of the Board of Scientific Counselors of ATSDR/NCEH, previously serving as the chair of the American Public Health Association's Environment section, and currently serving as a member of the National Academy of Sciences' Board on Environmental Studies and Toxicology. In addition, he has helped to improve citizen science and community engagement in science, in general, through his body of work including the time he spent on the Board of Community Campus Partnerships for Health and in his current role as a board member of the Citizen Science Association.

One important attribute that Sacoby brings to his work with EJ and other communities are his experiences growing up as an African-American in the U.S. This background has allowed him to understand and empathize with the problems, strengths and culture of the communities with which he often works. As far as I know, Sacoby is the only African-American who is consistently conducting physical scientific research with EJ communities in the U.S.

On a more personal note, I also want to state that I served on the National EJ Advisory Council (NEJAC) with Sacoby for years and saw firsthand his passion and commitment to both communities and science. The manner in which he interacted with community members while I served with him on NEJAC, and his insistence on including them in all aspects of his work, has positively influenced my own work.

Because of his scientific expertise, his incredible productivity and his relentless efforts to help E.J. communities, I am proud to support Professor Sacoby Wilson for membership on the EPA SAB.

Sincerely,

Nicky Sheats, Esq., Ph.D.
Director, Center for the Urban Environment
John S. Watson Institute for Urban Policy and Research at Kean University
Member of the New Jersey Environmental Justice Alliance
(b) (6) (cell)

# Carole Excell (b) (6)

June 4, 2021

Dr. Thomas Armitage
Designated Federal Officer (DFO), Science Advisory Board
U.S. Environmental Protection Agency Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N.W.

Mail Code: 1400R Washington, DC 20460

Via Email: <a href="mailto:armitage.thomas@epa.gov">armitage.thomas@epa.gov</a>

Re: Invitation for Public Comment on the List of Candidates For EPA's Scientific Advisory Board (SAB)

# Dear Dr. Armitage:

I respectfully submit this comment in response to the list of candidates nominated to serve on the U.S. Environmental Protection Agency's (EPA) Science Advisory Board (SAB). The chartered SAB provides scientific advice to the EPA Administrator on a variety of EPA science and research topics. The SAB Staff Office invited nominations of individuals to serve on the chartered SAB with expertise or extensive experience in the following scientific disciplines and topics as they relate to human health.

On May 19, 2021, EPA issued a call for public comment on the list of candidates for the EPAs SAB. I have been an environmental law and policy expert for over 11 years working with the World Resources Institute on understand the barriers communities face all over the globe to address air and water pollution. I have found that an understanding of the science but also the technical and policy frameworks, social and political and other barriers that local communities face to ensure institutions seek a preventive approaches to pollution are essential , and thus I have an interest to provide my views on this candidate.

The EPA needs to include candidates who understand the human element and interdisciplinary impacts of EPA's decisions; with a strong scientific and regulatory background, this is the reason why strong consideration should be given to Dr. Crystal Upperman.

Dr. Upperman leads the integration of public health information and informed risk characterization into Aclima's air pollution and greenhouse gas measurement and analysis products. In her prior roles, she was a Senior Research Associate at the World Resources Institute on the Global Commission on Adaptation, at AECOM she was the Climate Adaptation and Resilience Lead for the Southeast US, Latin America, and the Caribbean, and she managed the CDC's Building Resilience

Against Climate Effects (BRACE) program for Maryland Department of Health. She worked as an environmental regulator, very early in her career, for the New Jersey Department of Environmental Protection and the Georgia Environmental Protection Division's Ambient Air Quality Program. Crystal's research focus is in exposure science and spatial epidemiology and has included a national assessment of the impact of climate change, pollen exposure, and extreme heat on chronic respiratory diseases. Crystal is a Trustee of The Nature Conservancy, and is an Advisory Board Member for the American Public Health Association's Center for Climate, Health, and Equity. Crystal earned a PhD in Marine, Estuarine, and Environmental Science from the University of Maryland as a U.S. EPA Science to Achieve Results Fellow and an NSF Louis Stokes Alliance for Minority Participation Fellow, a Master of Public Administration in Nonprofit Management from Kennesaw State University, and a Bachelor of Science in Environmental Science from Spelman College.

Dr. Upperman's background and experience reflects the rigor and acumen necessary to help the U.S. EPA make informed environmental actions to protect public health. Her current work and her past experience will be an asset for this position

Sincerely,

Carole Excell

#### Todd L Sack MD FACP

June 15, 2021

Delivered Via Email
armitage.thomas@epa.gov
Mr. Thomas Armitage
US Environmental Protection Agency

RE: Nomination of Dr. John N. O'Brien to the Science Advisory Board

Dear Mr. Armitage,

I worked closely with John while we were both Commissioners on the Florida Energy Commission (FEC). We also cochaired a Subcommittee of the Commission - the Climate Change Working Group. While at the Commission, both as Commissioners and Committee Chairs, we worked together very closely confronting many of the same issues that the EPA will be addressing over the next several years. The EPA's mission to maintain an environment that will be safe and beneficial for generations to come is of extraordinary importance. The next few years will, in my opinion, be a turning point in the success or failure of our efforts as a nation to maintain a safe environment for our children and future generations. I believe that there are few more important tasks that lie ahead of us as a nation.

But first, about John's nomination. John is a highly skilled individual with a rare ability to view the type of issues the EPA will face in a truly interdisciplinary manner. His unique background has provided him with a multi-disciplinary understanding of complex scientific, technical, political, and social issues. His doctoral academic training as a social scientist provides an important asset of useful skills in addressing environmental issues. His professional career started as a Scientist at the Department of Energy's Brookhaven National Laboratory where he finished his doctoral dissertation (PhD in Interdisciplinary Social Sciences from the Maxwell School) and committed to Postdoctoral work at Brookhaven. He advanced through Brookhaven's Department of Nuclear Energy quickly becoming a Full Scientist with a lifetime appointment and a Principal Investigator examining social scientific aspects of nuclear weapons security and safe operation of nuclear power plants.

Then uniquely, after 10 years he left Brookhaven and went into and established himself in the private sector by founding several successful energy companies in various markets including natural gas, electricity, and renewable energy. After that he spent a couple of decades consulting for energy companies including electric utilities, gas utilities, solar energy developers, alternative fuel firms, independent energy marketing companies, and state and federal energy regulators, among others. As a result, his background also includes a deep knowledge and understanding of corporate finance; regulatory promulgation and compliance; Administrative Procedures Act compliance; federal, state, and local oversight of energy projects; advanced energy technologies; and numerous other areas important to understanding how to establish and promote energy regulation and projects that are beneficial to our nation's efforts to maintain a safe environment. While a Professor at Flagler College he also taught courses on International Economics, Healthcare Policy, Social Research Methodology, and Ethics in Public Service. I believe that all of these accomplishments have provided John with a very large breadth of skills that will be of substantial use integrating the various points of view needed to determine the best course of action for the EPA to realize, promote and maintain a safe environment.

The FEC that we served on together was formed by the Florida Legislature to make recommendations to the Legislature and its various committees on proposed legislation pertaining to energy policy. Florida is a large state with a voracious appetite for energy. While we served on the FEC from 2006 through early 2009, we confronted many issues important to the various stakeholders that would be affected by the legislation we would recommend. As a result, we were confronted by numerous interest groups including electric utilities, environmental advocacy groups, trade unions, political interests, other state agencies and numerous other concerns that either were in favor of or opposed to the legislative policies we had under consideration. As the two FEC Commissioners on point with oversight of climate change issues, John and I were often inundated by advocacy from various groups. John was skillful in his ability to thread the needles and get to the heart of the arguments that we were being confronted with. We held a number of hearings as a full Commission, but importantly, John and I held a number of separate open public hearings on climate change policy as a Subcommittee of the Commission. We held those meetings in numerous different locations around the state of Florida. It would be impossible to exaggerate the diverse level of public interest and opinions that we were confronted with and the volume of information that we received input on regarding issues associated with climate change science and policy. Both of us believed that the broadest level of public input that we could achieve would be very important to establishing the validity of the conclusions that we would reach regarding climate change policy for the Florida Legislature.

We also had to negotiate with other seven members of the nine-member FEC. Those negotiations were sometimes contentious. We worked very hard to create consensus among the Commissioners so that we could achieve support from the entire Commission for the climate change related legislative proposals that we made to the Florida Legislature. During that timeframe, broad acceptance that climate change was real was not universally recognized as it almost is now. In the end, the recommendations we made were unanimously supported by all of the Commission members. This required convincing some very skeptical Commissioners that our recommendations were sound and reasonable. Both John and I worked very hard to convince the overall Commission to support our recommendations, and in the end, the Commission did unanimously support our recommendations without dissent.

All of this speaks to the asset that John would represent by his participation on the SAB. His broad range of interdisciplinary expertise combined with his interpersonal skills will provide the committees of the SAB with a positive moderating influence. John will be proficient in promoting consensus and sound judgments among various SAB committee members. Members of the SAB will have different points of view, different skill sets and diverse expertise. I highly recommend that John's nomination be confirmed and that he be brought into the SAB as a participating member.

As previously discussed, this is a significant turning point in time that as a nation must be handled very adroitly if we are to maintain a safe environment for our children and generations to come. I regard John as an individual and expert who can contribute substantially to the goals of the SAB on both a personal level and on a solid scientific foundation.

Thank you for considering Dr. John N. O'Brien.

Sincerely yours,
Todd L Sack MD FACP

(b) (6)

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